INFANTRY

The Professional Bulletin for Infantrymen

September-October 1961

VOLUNTEER FOR SPECIAL FORCES?

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WITHDRAWAL OPERATIONS

REORGANIZATION II

ENCIRCLEMENT

Special Christmas Offer—page 31

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VOLUNTEER FOR SPECIAL FORCES?

Capt David R. Pinney, Inf

"Yes, I've been thinking of applying for a Special Forces assignment, but frankly I don't know enough about it to be sure it's the kind of duty I'd like!" This is the reaction of many young Infantry officers and enlisted men when the subject of special forces is mentioned. Most of them have attended brief orientations concerning unconventional warfare and special forces, and a few have had contact with special forces units participating in major maneuvers or field exercises. Indeed, in the last two to three years considerable publicity has been given the more colorful aspects of special forces. But other than to accent the varied training received by these small detachments who, in time of war, will operate deep in the enemy sphere of influence, little insight is given into the routine activities of a special forces group and the painstaking effort required to bring the detachments to a level of operational readiness. This discussion will not cover completely the field of special forces, but it does represent an effort to answer some of the major questions in the minds of individuals contemplating an assignment to special forces.

Special Forces came into being in its present form in 1952 when the 10th Special Forces Group (Abn) was activated at Fort Bragg, acknowledgment by the Army during peacetime of the potential of units trained specifically to capitalize on the undercurrents of resistonce present among the civil populace of an enemy-controlled area. In past conflicts, US participation in activities of this sort has been on a hit-or-miss basis. Units were organized under the pressure of necessity, were used and misused, and were rapidly done away with upon cessation of hostilities. With the activation of the 10th Group, the peace-time Active Army at last gained the means by which to develop a valuable concept with which the theater commander can extend his influence into the heart of enemy-controlled territory. Since 1952, Special Forces has expanded to three groups: the 1st stationed in Okinawa, the 7th at Fort Bragg, and the 10th in Germany. In addition the US Army Special Warfare School, also at Fort Bragg, is responsible for the development of doctrine and for various courses of instruction, both resident and non-resident, pertaining to special forces operations.

The wartime mission of Special Forces is to develop, organize, train, and control indigenous forces in the conduct of guerrilla warfare. During the cold war, Special Forces have the critical mission of providing mobile training teams to US MAAGs and Missions to assist local friendly governments in countering Communist or Communist-inspired insurgency. The Special Forces group, normally a theater-level group, consists principally of a headquarters and a number of operational detachments. The detachments may be formed into one or more companies during training when not committed. The company serves as a holding unit only and as such does not have an operational mission. Operational detachments are designated "A," "B," or "C." The "A" detachment is the basic operational unit and consists of

twelve officers and enlisted men who perform functions pertaining to command, communications, medical aid, weapons, and demolitions. It is capable of developing, organizing, training, and directing a guerrilla organization numbering several hundred. The "B" and "C" detachments have much the same organization and capability as does the "A" detachment, but have in addition the personnel required for normal staff functions. When committed, they may have operational control of two or more adjacent "A" detachment, but have in addi- quarters forms the nucleus of an operational base which directs the briefing, staging, and infiltration of operational detachments, and provides subsequent control, communications, and logistical support.

These detachments are prepared to commence infiltration on D-Day, or as soon afterward as possible, into an area of operations where guerrilla potential exists.

The detachments are infiltrated into their operational areas by the most suitable means available. Once in contact with the resistance elements, the detachments work rapidly to build guerrilla organizations that are responsive to the theater commander and capable of coordinated action. The para-military elements of these organizations (guerrilla forces) assist the theater commander in the attainment of his military objectives by conducting offensive operations against the enemy's lines of communication, logistical facilities, industrial complexes, and key military installations. In addition to the material loss accruing from these operations, the enemy is forced to divert combat units to counter this threat from within. Guerrilla forces can also lend significant support to conventional penetration-type operations such as armored thrusts and amphibious or airborne landings. Because of their disposition within the enemy-held area, Special Forces detachments are also a valuable source of intelligence.

Although Special Forces groups are primarily theater-level units, operational control may be passed successively forward to field army, corps, and, in rare instances, to division when the area of influence of these units overlap the operational areas of the Special Forces detachments. During this period, liaison personnel are exchanged, direct communications are established, and the guerrilla forces conduct operations in response to the controlling unit. Logistical support continues to be provided by the Special Forces operational base. Following linkup, guerrilla forces may be utilized within their capabilities for limited combat missions, reconnaissance, counter-resistance operations, and control of the civil populace.

The stresses imposed by long months of operating in the enemy's rear necessitate men who are mature and stable. Inherent in this is a requirement for the highest form of personal leadership, leadership which permits the commander to gain the complete respect and loyalty of each member of his detachment, and to retain it under the most trying circumstances.

Another important factor in determining the ultimate success or failure of a Special Forces group is the personality of the detachment commander and his skill in the use of basic psychology. He must be able to influence the guerrilla or resistance leader, an individual who often has little in common with the detachment commander (other than a mutual enemy). It is the task of the detachment commander to make certain that the guerrilla leader and his organization will accept directions from the theater commander in return for the technical and logistical support provided by the Special Forces detachment. The proper relationship between the two should be, on the surface, one of leader and advisor. Since the movement will have more appeal to the civil populace when a familiar local figure serves as its recognized leader, the detachment commander will seldom command the guerrilla organization. Rather, through diplomacy and control of logistical support, he channelizes the actions of the guerrilla leader so as to obtain the desired results.

At present, the majority of personnel volunteering for Special Forces are assigned to the 7th Special Forces Group at Fort Bragg. In addition to normal requirements for combat readiness, this group furnishes many of the replacements sent to the overseas units. Trained Special Forces personnel are identified by the digit 3 added to their primary MOS. The award of the 3 is the result of some of the most exacting training required of any combat element. It is well to note here that Special Forces is primarily an Infantry assignment, and it is most desirable that volunteers be expe-

rienced in this field. Ideally, the newly-assigned enlisted man is a parachutist and is well qualified in one of the basic MOSs common to the operational detachment. This reduces materially the time needed to qualify him for his new job. For example, a Light Weapons Infantryman who is qualified as denoted by his MOS goes through an initial training cycle designed to provide general background in Special Forces operations. This is followed by a specialist phase during which he is trained in the technical subjects associated with the duties of the Special Forces Light Weapons Leader. After successful completion of the second phase, he is assigned to an operational detachment. As a member of this detachment, he continues to improve his specialist qualifications and becomes cross-trained in the specialties of the other detachment members. His participation in field exercises and maneuvers is carefully scrutinized. Should he be lacking in the maturity and physical and mental stamina demanded by this duty, he is transferred out of Special Forces. Conversely, upon demonstration of the desired qualities, the man is awarded the coveted suffix 3.

Officers newly assigned to the 7th Group attend the Special Forces Officers' Course conducted by the Unconventional Warfare Department of the US Army Special Warfare School as soon as scheduling permits. This course provides the background needed to prepare the student for duties as a Special Forces staff officer or operational detachment commander. Officers are awarded the prefix 3 as they become qualified, usually following a period of satisfactory performance including a number of field exercises.

Post-cycle type training conducted by the Special Forces group is characterized by extensive field training under diverse conditions of terrain and climate. Special training, such as underwater demolition techniques, is conducted periodically for selected personnel. Foreign area studies are given considerable attention by the overseas units. Maximum use is made of language training facilities.

The proper employment of Special Forces units provides one of the most economical and efficient uses of manpower and materiel. In return for a limited outlay, Special Forces operations contribute significantly to the conduct of conventional military operations. Assignment to Special Forces is professionally profitable and offers an almost unparalleled opportunity for the development of initiative and individual resourcefulness. Its demands on enthusiasm, dedication, and maturity are not small, but it provides a source of great personal satisfaction to those measuring up to these high standards.

WHAT'S IN A MIL?

Re the "Rifle Platoon in the Defense" problem in the May-June issue. . . . What hit me the hardest was to have a machine-gunner measure the width of his sector of fire in degrees. . . . .

All of the mechanisms on the machinegun, to include the rear sight, are graduated in mils. The only way for the gunner to measure anything in other than mils is to use his squad leader's binoculars or compass.

Capt Bernard J. Fox
Weapons Dept, USAIS
Fort Benning, Georgia

The following reply to Capt Fox's letter was prepared by the Ranger Dept, USAIS:

Sectors of fire for the machineguns were given in degrees to insure rapid understanding by the reader without referring to his compass or binoculars. Experience had revealed that the military reader can visualize without difficulty an angle given in degrees. On the other hand, when confronted with an angle given in mils the reader must go through a mental mathematical process in order to arrive at an angle in *degrees*.

SNIPERS

Sgt Buckhorn's plea in "The Long Range Rifle" (Mar-Apr 1961) reflects an ironic pattern in our thinking and doctrine on the subject of the sniper in the past several years. I recall years ago in the old *Quarterly*, an article which posed a plea for making the sniper useful. Later, if memory serves me correctly, a plea for the revival of the sniper appeared. Then silence for many months—the subject seemed forgotten. Now, the Sergeant's case for *introducing* the sniper, which, sadly enough demonstrates how soon we have forgotten and how completely we have ignored this lucrative possibility.

I agree with the Sergeant that efforts should be made in the direction of reviving the sniper. Money and training need not be stumbling blocks. A program could at least be initiated using present equipment with a little skillful planning and use of resources.

If the impetus won't come from the top down, perhaps it can go from the bottom up. What equipment now exists is, after all, in the rifle company. If enough units show an honest effort in attempting to exploit this sniper man-weapon for what he is worth, sooner or later some serious thinking might develop on the subject. A suitable weapon, ammunition and related equipment might follow.

Lt Michael J. Frankwicz
US Army Support Center
St. Louis, Missouri

WORDS INTO DEEDS

In the Reserves time is our number one enemy and *Infantry* literally saves us time. . . .

The articles on demolitions are an example of how helpful such information can be. One of my sergeants has set up an excellent class based on the article "Ear Muff," and another man is building those portable barriers for use at summer camp [see *Infantry*, Dec-Jan-Feb]. Two of our three field exercises are being based on ideas from [other issues of] *Infantry* ("Infiltration" and "Isolation").

. . . . I only wish more Reservists read *Infantry*.

Capt A. H. Mendenhall
Company E, 3d BG, 15th Infantry
Cheli Air Force Station
Maywood, California

OVUREP

I have read with great interest Colonel Hayes' "OVUREP" published in your May-June 1961 issue.

I designed the OVUREP program during my recent tour in DCSOPS, DA, with assistance from Lt Col Benjamin Wechsler (DCSPER) and Col Stockbridge Barker (DCSLOG).

. . . Col Hayes' statement that OVUREP "is a challenge" is in accord with preliminary estimates. Also, throughout the planning of OVUREP we who designed it repeatedly stated that the system was up for test and that we fully expected some flaws to develop after the trial. It is gratifying to me to learn that there are as few as Col Hayes has stated.

. . . It will only be through evaluation such as his that the present DA OVUREP project personnel will be able to improve the system.

Col John W. Medusky
Chief, Tng Div, G3 Sect
Hq, Fifth US Army, Chicago, Illinois

Antenna Squad

INFANTRY FORUM

Capt Raymond E. Marshall, Inf

UNDOUBTEDLY, the most poorly controlled and ill-utilized element of the entire rifle company is the command group that accompanies the company commander on dismounted operations.

You, as company commander of an attacking unit, will be trailed by at least the company command net radio operator, the battle group command net radio operator, the weapons platoon leader, and the weapons platoon leader's radio operator. In addition, a two-man forward observer team from the battle group heavy mortar platoon (mortar battery in the airborne battle group), and a three-man forward observer section from a supporting artillery battery will probably join this throng. Some situations make it necessary to add one or more messengers to this group, particularly when operating under radio silence. Your battle group might also operate a joint administrative and intelligence net, which adds still another to the procession. In short, this "antenna squad" can be, and usually is, a mob.

Probably the most difficult fundamental to teach your company in the field is dispersion. Since the American soldier is extremely gregarious, you find yourself constantly striving to keep your unit dispersed. The individual soldier, who has heard dispersion preached to him since his first days of tactical training, looks at the company command group and just shakes his head. What this soldier usually sees is something roughly resembling the first stage of a political rally. Each member of the "antenna squad" knows that he is supposed to accompany the company commander, and therefore thinks it is necessary to be looking over his shoulder at all times.

Your first step in controlling this group is to get it organized. The only individuals who should have to keep visual contact with you are the weapons platoon leader, the battle group command net radio operator, and the company command net radio operator. All forward observers should keep visual contact with your weapons platoon leader. The weapons platoon leader is then in a position to give maximum assistance in coordinating your fires, and in keeping the command group dispersed and controlled.

Any forward observer who is operating with your unit for the first time should be oriented on your method of operation, to include specific instructions regarding dispersion. He should also be advised to respect the rifle platoons' formations by not cutting in and out of the columns unless it is absolutely necessary.

DARKNESS creates additional control problems with any unit. Many company commanders go to great lengths to prevent confusion on a night operation. Luminous markings have been widely used as a control measure. However, it is not uncommon for some members of a rifle platoon to end up following one of your radio operators when the situation causes the members of the command group to change their relative positions within the formation. A technique for avoiding such an occurrence is to have all members of the

command group wear a distinctive marking. For example, if the men in your company wear luminous markings on the rear of their pack suspenders, have all members of the "antenna squad" wear luminous markings on the rear of their helmets.

Now that you have your "antenna squad" well organized and under complete control, let's see if you can't make better use of these personnel. First of all, take a look at the forward observers you have in the group. Although we have already stated that the weapons platoon leader should be in a position to do your "leg work" in the fire support coordination, this system in no way relieves you of the responsibility of being your own fire support coordinator. The weapons platoon leader should have visual contact with you so that you can give required guidance and make necessary decisions. Instruct all forward observers to monitor their respective radio nets, and pass any information on to you. Many times the artillery net will have valuable information that you won't receive from battle group until a later time because of the amount of traffic on the net. Don't overlook the excellent alternate means of communication available to you through these forward observers.

WHILE he is a member of your command group, the weapons platoon leader has no need for a radio on the company net. Therefore, his radio operator should be on the company mortar section fire control net, enabling him to communicate directly with the fire direction center. This same radio can give you an excellent alternate means of communication with your rifle platoons through the 81mm mortar section forward observers.

Take a good look at two of the most important members of your group, namely the radio operators on the battle group command net and the company command net. When either one of these two operators isn't doing his job properly, your company suffers. These two operators must be very carefully selected and thoroughly trained. The commonly-held idea that a trained radio operator is a man who knows when to say "over" or "out," how to calibrate his radio, how to detect jamming, and how to perform all the other mechanical functions is false. This mechanical knowledge is essential, but it forms only the foundation for a good operator at company level. Both operators must have common sense and must be mentally alert. They should be carefully selected, outstanding soldiers. It is a good practice to have these men present when you brief your platoon leaders. If the company command net operator has a general understanding of what's going on, he is much more likely to understand a transmission from an excited platoon radio operator. An understanding of the situation will enable your battle group net operator to anticipate your transmissions and have the pertinent data extracted from the SOI ahead of time. In fact, a well-trained operator will often remind you of necessary transmissions to battle group, such as crossing a phase line or securing an objective.

THIS battle group operator serves another important purpose if he is properly trained — that of monitoring the battle group command net. The average radio operator pays absolutely no attention to his radio unless he hears his call sign. As a rifle company commander, you need to know where the other units in the battle group are and what they are doing. An attack seldom goes off exactly as planned, even in a training exercise. Granted, there are prescribed procedures such as net calls and multiple calls for keeping units informed, but these systems do not work well during an attack. The "old man" doesn't have time to worry about these elaborate calls, and furthermore, the battle group command net is too crowded to attempt such communication procedures during an attack. If a message passes over the net, you should have the information. Some commanders attempt to monitor the battle group net by having the operator write down all traffic. I'm sure you will never find time to decipher all these messages and apply them to a map.

There is a system which has been used successfully to cope with this problem. One prerequisite for its use is that your operator be capable of reading a map and plotting coordinates. My own operator in such a situation carried a clipboard with the SOI taped under the lid and a map mounted under frosty acetate on the reverse side. When a message came in for the company, it was written word for word and given to me. When other traffic went over the net, the operator would write it down, decipher it, and put a pencil dot on his acetate-covered map. He would then show me the map and tell me what was going on. For example, "Charlie company was held up here and Echo company is attacking around their right flank." If your operator is competent and reliable, this system will give you your own operations section. It is not only comforting but vital to know what's going on around your unit. This technique, though not the final answer, will certainly be of great help in that respect.

THE next time you have your company on a tactical exercise, pay especially close attention to members of your command group. Are they properly dispersed? Do they help keep you informed as to what's going on throughout the battle group at all times? Are you certain that you're taking full advantage of their capabilities? As you ponder these questions, remember that the smoother this "antenna squad" operates, the more time you will have to concentrate on fighting your company. The little extra advance time spent in organizing and training your command group will pay large dividends later in the form of a polished, efficient and truly professional unit.

The opinions expressed in this article are those of the author and do not necessarily reflect thinking of DA or USAIS.—Editor.

ASSIGNMENT: ARMORED DIVISION

Capt Melvin E. Meister, Inf

There I was in the commander's hatch of an armored personnel carrier, leading an armored rifle company to a training area near Nurnberg, Germany. I was fresh from Infantry training and unprepared for the predicament in which I found myself. Embarrassment was not long in coming. No one had explained to me the necessity of proper arm-and-hand signals and march discipline in an armor unit. Further, I was accustomed to reading a 1:25,000 scale map while conducting training exercises, a fact which allowed sufficient time for orientation. I found that a motor march is different, however, and problems arose. Soon after this particular one began, I frantically discovered I was no longer on the same map sheet as when I started. Just then, my company commander called on the radio to ask my location on the route of march. Needless to say, embarrassment mildly explains my feelings on that occasion. It took an appreciable period of observing, questioning, and studying to grasp fully the tactical doctrine of armored Infantry.

Probably one of the most difficult problems areas I encountered was communications. In previous military training I was exposed to the AN/PRC-10 with its few accessories and was told that this radio was my invisible connection with the unit commander. This worked out fine several years ago because if your radio failed, you could dash up to the CP, deliver your message in person, and get another battery for your set. This concept was disrupted soon after I joined an armored rifle company. On our first battalion-level delay-with-

drawal exercise, my platoon was approximately five miles from the company CP. I was accustomed to leaving my radio set AN/GRC-4 on so as to communicate with the unit commander on a moment's notice. No one had explained that this drained a considerable amount of energy from the batteries after a period of time. Consequently, when the Aggressor Forces developed enough pressure on my platoon to force withdrawal to the next successive position, my armored personnel carrier could not be started because its batteries were almost dead. Fortunately, my platoon sergeant had a "slave cable" in his vehicle. This cable is nothing more than a heavy electrical cable that can be hooked up between two vehicles to aid starting the stalled vehicle. I managed to start my vehicle and move my platoon with scant moments to spare.

It must be remembered that armored personnel carriers can be equipped with several types of radio sets. Usually an armored rifle platoon is equipped with two AN/GRC-4 and two AN/VRC-7 radios. This allows the platoon leader to communicate with the company commander, adjacent tank or armored rifle platoons, the company mortar platoon, and his own rifle and weapons squads. Two squad carriers normally are equipped with AN/VRC-7 radios, which gives them the capability of communicating with the platoon leader and the remaining squads of the platoon. When dismounted, the platoon has five AN/PRC-6 radios that will net with the AN/VRC-7 vehicular radios. This gives the entire platoon the capability of instructing the drivers as to the desired disposition of the carriers. Armored units depend on excellent radio communications, especially on today's battlefield where you are seldom within walking distance of the CP. Usually it is not the communication equipment that gives us trouble, but rather the improper adjustment of "headspace" between the earphones—namely the user.

But my assignment to armor taught me not only tactical considerations, but also the tremendous logistical support required to keep an armor organization rolling. Probably the best example I can recall to show the necessity for proper planning of logistical effort is to cite an Army-level field training exercise conducted in December 1956. Our battalion was initially placed in corps reserve just south of Ulm, Germany. The final objective was some high ground north of Bamberg, approximately 170 miles away. After a series of short moves which did not advance our organization more than 20 miles from its initial location, we were told to be prepared for commitment on a moment's notice as part of a large armor task force. Until this time, gasoline and other POL had been no problem because of our limited movement. It was late in the afternoon when the platoon leaders were called to the company CP for the operation order. We were instructed to load up immediately to exploit a hole that had been punched in the Aggressor front lines. The unit commander assured us that sufficient gasoline would be brought forward after we made the penetration and prior to reaching the final objective. We moved out, traveling all that night until about 0400 hours the following morning. I radioed the CO that my gasoline supply was low and that I could not travel more than 10 to 15 miles on what I had left. The CO acknowledged my request and instructed that we hold up until our combat trains could refuel our vehicles, then make the final push to the objective.

After what seemed a long wait for our task force, a bulk tanker came up from the trains of one of the leading tank battalion task forces. I managed to borrow about 20 gallons of gas for each of my vehicles, and shortly thereafter the unit commander called and instructed us to mount up. We were moving out, gas or no gas. My platoon was within four miles of the final objective when my carrier coughed abruptly and the engine died. I immediately called the CO, told him of the situation and informed him of my plan to unload the squad in my carrier, distribute it among the other three carriers, and continue the march. After ac-

"I discovered that I was no longer on the same map sheet."

"My platoon ran out of gas four miles from the objective."

complishing this task we continued to move. Within the next three-quarters of a mile the remaining carriers of my platoon ran out of gasoline. I could see the final objective approximately three miles away, but as of now my platoon was completely foot mobile. We walked the final distance and successfully took the objective.

A total of 12 APC's out of 77 from our battalion reached the final objective on their own power, and the remainder were strewn along the highways out of gas. This experience vividly shows that armor units encounter tremendous problems unless their logistical support is effectively planned. In this instance, the plan was good, but for reasons I do not know the POL vehicles never reached us. Combat strategy or tactics cannot be divorced from logistical support at any level of organization, especially in an armor organization. Any commander or staff officer who specializes in one and does not consider the other is lost.

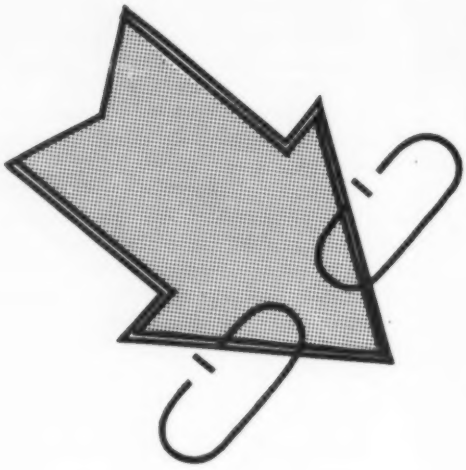
But aside from the obvious problems of logistics, what else should an Infantry officer know before going to an armored division assignment? First of all, he should know that in its present general organization, the armored division is composed of four tank battalions, four armored Infantry battalions, one cavalry squadron and one engineer battalion, plus supporting artillery and technical service battalions. It is tailored for combat, having three combat commands within which there may be any types and combinations of battalions depending upon the mission, terrain and weather, situation, and desire of the division commander. An armored division works on the principle of combined arms. The combat command commander cross-attaches tank and armored rifle companies within his attached battalions. This means that tank and armored Infantry units are usually employed together, giving the tankers the close-in protection that they vitally need in wooded areas, built-up areas, and night operations. It is this combination which gives the armored Infantry the big punch of the tanks' main armament and machineguns, plus the shock action, mobility and long range communications capabilities that the tankers possess. The ability to shoot, move, and communicate is a prerequisite of all armor commands. By employing combined arms teams of tanks and armored Infantry, supported by artillery and engineers, the effectiveness of each of the components is heightened, and defeating the enemy becomes only a matter of utilizing the elements together correctly.

In using the APC component of the team, it must be remembered that the APC is primarily transportation with enough armor protection to withstand light small arms, mortar and artillery fire. Too often, people think these vehicles can be utilized to spearhead an attack and lead off as if nothing short of a nuclear weapon can stop them. It is a good idea for all commanders and staff officers to get out the manuals pertaining to military vehicles and read them before they sweep their hands over a map and say, "We will attack in this direction to seize our objective—move out."

But even Infantry officers cannot be certain of what job they will have within an armored division. It is even possible to be assigned to a tank battalion. The Army does endeavor to keep you within your own branch for all practical purposes, but this does not preclude an assignment to an armor battalion if the officer strength happens to be low in these battalions upon your arrival at the division. It is not what insignia you wear on your left collar that's important, but whether you are capable of doing the job. Many of our present-day commanders started their careers in branches other than the one in which they serve today.

An assignment to an Armored division *can* be a wonderful and enlightening experience for an Infantry officer. Let me quickly add, however, that such an assignment could be considerably more "wonderful and enlightening" if junior Infantry officers received more prior training on armor and armored Infantry employment, on the equipment involved, and on the limitations and capabilities of that equipment.

As *Infantry* said recently in an editorial, at the "point of decision," the assault, all Infantrymen become alike. But *up to* that point, there is a difference.



PASSAGE OF LINES

DOCTRINE

One of the riskiest and trickiest tactical operations is a passage of lines. For one thing, full mastery of the principles is not a guarantee of success, for at a specific point in time and space during such an operation the troops present an extremely vulnerable nuclear target.

A passage of lines is, in reality, a type of relief, but its difference from other reliefs lies in the fact that the passing unit is normally destined to continue momentum by attack. That unit has, therefore, the dual problem of worming its way through an existing unit and, without cessation of movement, attacking an enemy it may not have confronted before. It is apparent that detailed planing must precede any such operation. It is also obvious that deception plans are of paramount importance, even though ultimate success of the passage cannot afford to be wholly dependent upon deception.

In brief form, these are the matters which must be accomplished under the strictest secrecy and coordination:

- All intelligence data of the in-place unit (thru which passage is to be made) must be transferred to the passing unit.
- Full tactical plans of the passing unit must be transferred to the in-place unit. As a corollary, the in-place unit must specify details of its plans to the extent that they will suport the passage *and attack*.
- Arrangements must be made for detailed reconnaissance, preferably by daylight, for elements of the passing unit.
- A mutually agreeable and workable plan must be devised to provide security for the moving unit. This may become part of the deception plan.
- The two commanders, unless instructed by higher mutual command, must agree upon a time or place or circumstance upon which the *passing* commander will assume responsibility for the area of passage. Under normal conditions this transfer is made at the time of attack or upon crossing the LD. (See footnote concerning passage by Armor through Infantry.)
- The degree and timing of fire support which can be expected from the in-place unit must be determined. For the in-place unit this will vary, of course, even to include platoons, since support is dependent upon a host of conditions, especially direct fire support.
- Logistical support must be made available by the in-place unit to the passing unit. The extent may vary, but such matters as vehicle re-fueling, water supply, medical evacuation, and others can be of significant concern to the attacking unit, particularly if it has traveled far in order to effect passage. Division will dictate the extent of this support.
- Similarly, the extent of administrative support must be made clear and coordinated. The passing unit can ill-afford to establish PW collecting points when the in-place unit may already have such facilities, for example.

All of these matters are preceded, where possible, by warning orders to both units, warnings which will permit the time necessary for detailed plans. Upon receipt of a warning order, regardless of time remaining until H-hour, both units should exchange liaison officers. After initial contact and coordination by the two battle group commanders, the staffs should effect detailed coordination on the matters listed above. Like any other tactical operation, this operation cannot be a staff-planned and executed one; it must, without exception, direct and insure coordination even among squad leaders if possible. The company, platoon, and squad leaders must make their own detailed plans, based on staff guidance, for these matters:

- Priorities for use of routes into and through the in-place unit. The battle group commanders will, of course, have established times and any exceptions to priority demanded by local conditions. Company and smaller unit leaders must know these routes, and must secure guides from the in-place unit. Good

sense dictates that passage should be effected during hours of reduced visibility as protection against discovery, and guides are vital not only to insure that the passing unit arrives at its line of departure, but also that the unit arrives there on time.

• Selection of areas through which passage will be made. Obviously, one company cannot, in secret, scramble through the position right atop a dug-in company. The more appropriate routes will be around or between elements of the in-place unit, dependent on the tactical situation and the terrain. These areas of passage should also be predicated to some extent upon the degree to which the in-place unit can support by direct or indirect fire. Lanes for passage may be marked, but to have these marked during daylight invites detection by enemy aerial reconnaissance.

• If battle group has so chosen, reconnaissance of the forward assembly area. However, assembly areas are not normally used. Once passage has begun, any delay caused by insisting upon use of a forward assembly area merely multiplies the already-hazardous aspects of a passage.

• Precise determination of time-distance of the passing unit from its expected location to its line of departure. Just as in any other attack, it is essential that assault elements cross the LD on time. In a passage, the delay of one company or one platoon increases both its own and the in-place unit's vulnerability to enemy fires. Also, each company, each platoon, and each squad will probably have varying time requirements for traversing occupied areas. The staff cannot give these time-distances to commanders; they must be thoroughly checked on the ground.

• Communications as they affect both the functioning of the passing unit and deception plan. Ordinarily, as part of deception, there should be no change from the in-place unit's routine communications pattern. This means that the passing unit *may* have to implement unusual control measures which do not involve radio or telephone communications. This may impress the reader with the complexity of a passage of lines or, for that matter, any other relief which is accomplished in contact with the enemy.

It should be apparent now, after a partial listing of particulars, that a passage is risky, and beset with a zillion details. Why is it necessary? There are several reasons, all of which indicate that it is either required or worth the risk.

For example, a relief in place will require considerably more time than a passage. The complexities of fitting 200 men at night into 200 holes dug and occupied by somebody else are obvious. Or, as another example, it may be desirable or even necessary to have double the fire support of two units in order to crack through at a specific point in the enemy's defense. Or consider these points: if there is to be a change in direction of attack, it is far easier to *initiate* movement in that direction than it is to turn a moving or emplaced unit; if the in-place unit is decimated or exhausted, but is holding, and if continuous pressure must be kept on the enemy, then an attack, not a defense, is the answer; lastly, if the in-place unit is spread out over a wider area than is desired for the attack, its re-grouping at or after H-hour is far more dangerous and unlikely to succeed than would be a pre-set formation by a passing unit which can adopt its formation and momemtum under protection of friendly forces.

A passage of lines may be relatively uncommon; it certainly is not taught as widely as it might be. However, if the "battlefield of the future" is even remotely akin to the widely dispersed arrangement now being forecast, then passages may become commonplace. True, they may be easier with a reduced density of troops, but they can become no less dangerous, no less vulnerable to larger weapons, and no less complex in terms of coordination required. On a dispersed battlefield, a unit will learn to expect trouble from any quarter, and it may ask "who's there?" only after shooting. It is essential that in our day-to-day training, units and commanders take the time to practice this form of relief until it becomes thoroughly a part of routine tactical play.

(Footnote: When Armor passes through Infantry, there are several differences in doctrine. In general terms they are as follows:

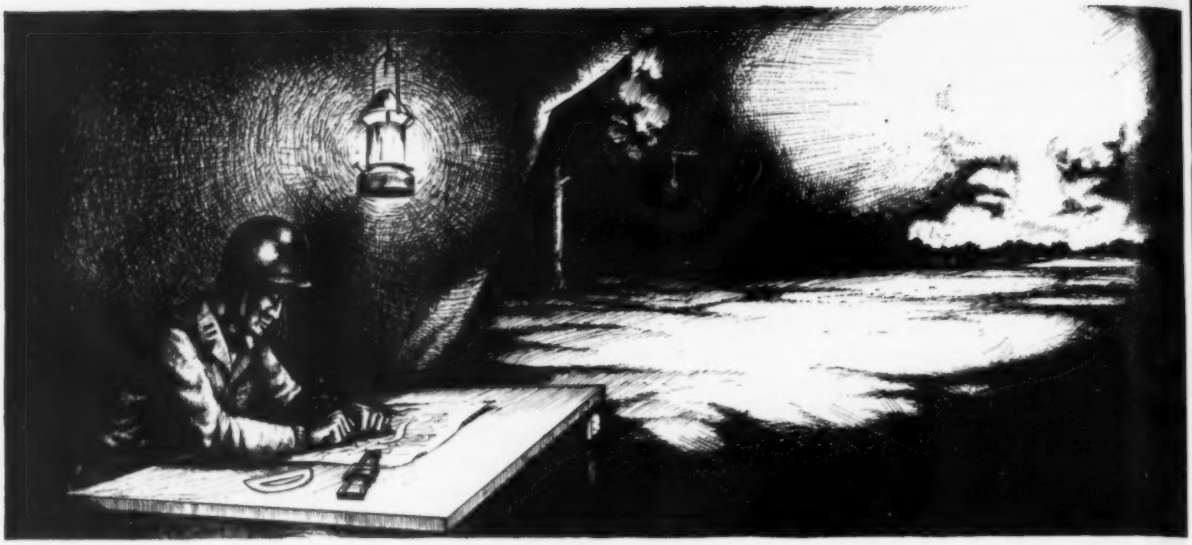
• Normally, Armor does not desire a transfer of responsibility for the area, feeling that is not necessary in view of wide variance in missions of the two units. It moves, of course, faster than dismounted Infantry, but more important is the fact that the in-place Infantry will usually receive a follow-and-support mission to clear bypassed or exceptionally troublesome enemy resistance.

• Details of route priority and such matters are far more complex for tracked and wheeled columns than for foot marches. In addition, the protection of secrecy is many times more difficult because of the noise. The in-place unit may be called upon to expend an unusually large amount of ammunition merely to cover the noise. Such action, if not near-normal for the in-place unit, will attract immediate enemy attention even if it does not yield a precise picture of what is occurring.

• Any clearing of minefields or other obstacles is normally accomplished by the in-place Infantry rather than the passing unit, again to expedite the uninterrupted flow of Armor columns.

• The extent of administrative and logistical support required of the in-place Infantry may be greater than for passing Infantry. Armor units will, because of their speed, have less time for establishment of such facilities as medical stations, PW collection, refugee collection or re-routing, and graves registration. If the in-place unit has a follow-and-support mission, these support responsibilities may magnify in quantity and time, but are necessary. Also it makes little sense to duplicate existing facilities.)

This article is in consonance with current doctrine as taught at the United States Army Infantry School.



DOCTRINE

Nuclear Target Analysis

Capt Louis C. Menetrey, Inf

AS COMMANDERS, you are concerned with employing nuclear weapons as a vital extension of combat power and fire support. The key to effective use of nuclear firepower is target analysis, because upon this analysis depends where, when, why and if nuclear fires will be used. It provides the commander with information upon which to base a decision.

A new method of analyzing the target for nuclear attack is prescribed by Change 1 to FM 101-31, *Staff Officers Field Manual, Nuclear Weapons Employment,* to be printed this month. It is called the Weapon Selection Table Method of Target Analysis. Career and Associate Career Officer classes at USAIS are currently receiving instruction in this new technique.

The purpose of this article is to describe this new method briefly and, perhaps more important, to explain how it is integrated with present methods to improve and simplify target analysis procedures.

The objective of any nuclear target analysis is to relate as closely as possible the effects of specific nuclear weapons to specific targets, and to make those effects consistent with troop safety and tactical necessity. The weapon selection tables in Change 1 to FM 101-31 offer one means of achieving this objective. These tables are grouped according to types of delivery means: cannon, free rocket, guided missile, atomic demolition munition, aircraft and naval. For each weapon system there is also a separate table for each combination of yield, target category, and height-of-burst option. A typical weapon selection table is shown in Figure 1.

The first column is the range from the delivery means to the center of the target. Before these tables can be used, therefore, the location of all supporting delivery means must be known.

The second column shows the *minimum* safe distance between friendly troops and the center of the target. Troops at this distance will receive no more than a negligible risk if they are unwarned exposed and are in a straight line of orientation perpendicular to the line of fire. If troops are no closer to ground zero than the distance listed here, they are normally "safe." With each delivery means are also included tables from which this minimum safe distance can be read if the commander will accept a higher risk, if the troops are better protected, or if they are in a different orientation to the line of fire.

THE HEART of these tables is contained in the center section under "Fraction of Target Coverage." For each range and target radius, two decimal numbers are given, separated by a slant mark. Taken together, these numbers are an index of weapon effectiveness. The first number is the probable fractional coverage of the target; the second number is the average or *normal* coverage. In Figure 1, for example, at a range of 13,000 meters for a target of 1000 meters radius, the index is .4/.5. This is the percentage of casualties the target analyst (Nuclear Weapons Employ-

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Range	Troop Safety Distance	Fraction of Target coverage In the column under each target radius, the first figure is the probably minimum coverage; the second figure is the average coverage								Damage Radius Meters		Height of Burst
		Target Radius - Meters								Probable		
Meters	Meters	600	800	1000	1200	1400	1600	1800	2000	Minimum	Average	Meters
7000	3400	.9/.9	.7/.8	.5/.6	.3/.4	.2/.3	.2/.2	.1/.2	.1/.1	750	775	175
10000	3400	.8/.9	.6/.8	.5/.6	.3/.4	.2/.3	.1/.2	.1/.2	.1/.1	725	750	227
13000	3500	.7/.9	.6/.7	.4/.5	.3/.4	.2/.3	.1/.2	.1/.2	.1/.1	675	725	280
16000	3500	.6/.8	.5/.7	.3/.5	.2/.4	.2/.3	.1/.2	.1/.1		625	700	332
19000	3600	.5/.8	.4/.6	.3/.4	.2/.3	.1/.2	.1/.2	.0/.1		550	675	385
22000	3600	.4/.7	.3/.5	.2/.4	.1/.3	.1/.2	.0/.2	.0/.1		475	625	437
25000	3700	.2/.6	.2/.4	.1/.3	.1/.2	.0/.2	.0/.1			325	575	490
28000	3700	.0/.5	.0/.4	.0/.3	.0/.2	.0/.2	.0/.1			0	500	542
31000	3800	.0/.4	.0/.3	.0/.2	.0/.2	.0/.1				0	450	595
34000	3800	.0/.3	.0/.2	.0/.2	.0/.1					0	375	647
37000	3900	.0/.2	.0/.2	.0/.2	.0/.1					0	325	700
40000	3900	.0/.2	.0/.2	.0/.1						0	300	752

Figure 1

ment Officer) will estimate in his recommendation. When this weapon is fired at this target, nine out of ten times it will cause casualties among *at least* 40% of the exposed personnel; or, in other terms, there is a *high assurance* of 40% casualties (.4). The .5 means that 50% of the exposed personnel are *definitely expected* to be casualties. This last number is a new figure in target analysis. It is the average coverage (damage) of a number of rounds, and offers the commander additional information upon which to base a decision. Both these numbers take into account vertical *and* horizontal errors of the delivery system. Therefore, no further computation is necessary. This is the final answer on predicted damage to the target.

Under "Damage Radius" in the tables are given values in meters corresponding to the index values. Only vertical (height-of-burst) errors are considered in computing these radii. The damage radii have been included to simplify making a graphic portrayal, on a map or overlay, of the extent of weapon effects. The weapon selector template is used for this purpose, and horizontal error must then be taken into consideration.

Height of burst is defined as that height, *set on the weapon,* to give the burst option selected. In Figure 1, heights shown are "low air bursts," that height which gives maximum effectiveness while still providing a very high assurance (99%) of precluding fallout. This will be the normal option selected. However, there are tables for two other height-of-burst options available for each weapons system. These are "impact," where fallout will occur, and "high air," where induced radiation and obstacle radii will be minimized.

FOR EACH weapons system, yield, and height - of - burst option, there are tables for four target vulnerability categories as follows:

• Exposed Personnel—casualties within one hour (15-30 minutes) among personnel who are in the open *but protected from thermal effects.*

• Protected Personnel — casualties within one hour (15-30 minutes) among personnel protected by armor or hasty field fortifications.

• Wheeled Military Vehicles — moderate damage to wheeled vehicles or related targets.

• Tanks and Artillery—moderate damage to this type materiel.

Altogether this makes an imposing number of tables, but a good index has been provided so that the proper table can be found quickly.

After a target has been detected, identified, and located, it is then evaluated to determine whether, and in what priority, it should be attacked. The target analyst then turns to the proper tables for the weapons which have been allocated, and determines which weapon is best suited for attack of this target. Normally, all necessary information for each weapon can be determined from the appropriate weapon selection table. However, if additional information is desired on troop safety, induced radiation, cratering, tree blowdown, etc., it is available in separate, direct-reading tables for each weapon system.

continued

THE WEAPON selection table method of analysis joins two other methods in current use, the numerical method and the visual method. The numerical method involves the use of damage estimation graphs and nomographs in conjunction with effects data to provide a numerical description of the damage inflicted by a particular weapon on a particular target. The visual method involves visual comparison of an "effects circle" with a "target area" in order either to estimate the fraction of target coverage or to select a weapon of suitable size and accuracy to produce a desired fraction of target coverage. The visual method uses a scaled circular template (weapon selector) in conjunction with Vertical Dispersion Nomo Tables (VDNTs). An important feature of the three methods is that they are complementary, not competitive. Each has its place and each may be used at all levels of command, depending on the situation and the target.

THE WEAPON selection tables are the preferred method if a choice is possible. They are faster and offer the commander more information upon which to base a decision. They are best used when the target is circular or nearly so, when ground zero is at target center, when the target is materiel, or when personnel casualties are desired in less than an hour.

The tables, however, do have limitations which dictate use of other methods when delivery errors for a weapon system vary significantly from those in the tables, when personnel casualties at a later time are desired, when ground zero is not at target center, or when vulnerability analysis of friendly dispositions is desired. Other methods are also preferred when the target is a point target or a complex composed of many point targets (the numerical system is best suited for these), the target shape is irregular or is elongated so that the long axis of the target is more than twice the short axis (visual system preferred), or when it is desired to portray, on a map or overlay, target coverage and other accompanying effects (visual system).

It is important that commanders and staff officers have an appreciation of these methods of target anaylsis, of the conditions under which each method has special application, and of the advantages and disadvantages of each. However, it is the job of the trained nuclear weapons employment officer actually to apply each method where appropriate. Under certain circumstances it would be better to use a combination of these systems, and, because they are complementary, this is possible.

THE FINAL payoff of target analysis is a command decision. A correct analysis assists the commander in selecting the right weapon at the right time and on the right target.

This article is in consonance with current doctrine as taught at the United States Army Infantry School.

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WITHDRAWAL OPERATIONS

Maj William A. Brown, Inf

A WITHDRAWAL from action by a battle group can be a hazardous exercise. When properly planned and executed, however, it is no more difficult than any other tactical operation. This is the key —*when properly planned and executed.*

Too often staff planners and commanders look upon a withdrawal from action as a tactical operation that can be accomplished "off the cuff." Unfortunately, it isn't as simple as that. The planning must be precise and yet flexible, and the maneuver must be carried out with initiative and resourcefulness. In the vernacular of the field manual, there is a premium on "centralized planning and decentralized operations."

To better understand this, let us consider how we go about planning a withdrawal from action. In so doing we shall find that some of these elusive tactical principles come into clearer focus.

Let's assume, first of all, that you are the commander of the 2d Battle Group, 29th Infantry. Your unit is now on Delaying Position BLUE, and you have prepared plans for organization of Delaying Position WHITE (Figure 1). It is now 1200 hours. The 2d BG, 10th Inf (+), part of the Division covering force, occupies positions east of Phase Line OMEGA to cover the withdrawal of the 2d BG, 29th Inf.

TACTICAL REQUIREMENT:

1. Show on Figure 1 your plan for a night withdrawal from Delaying Position BLUE to Delaying

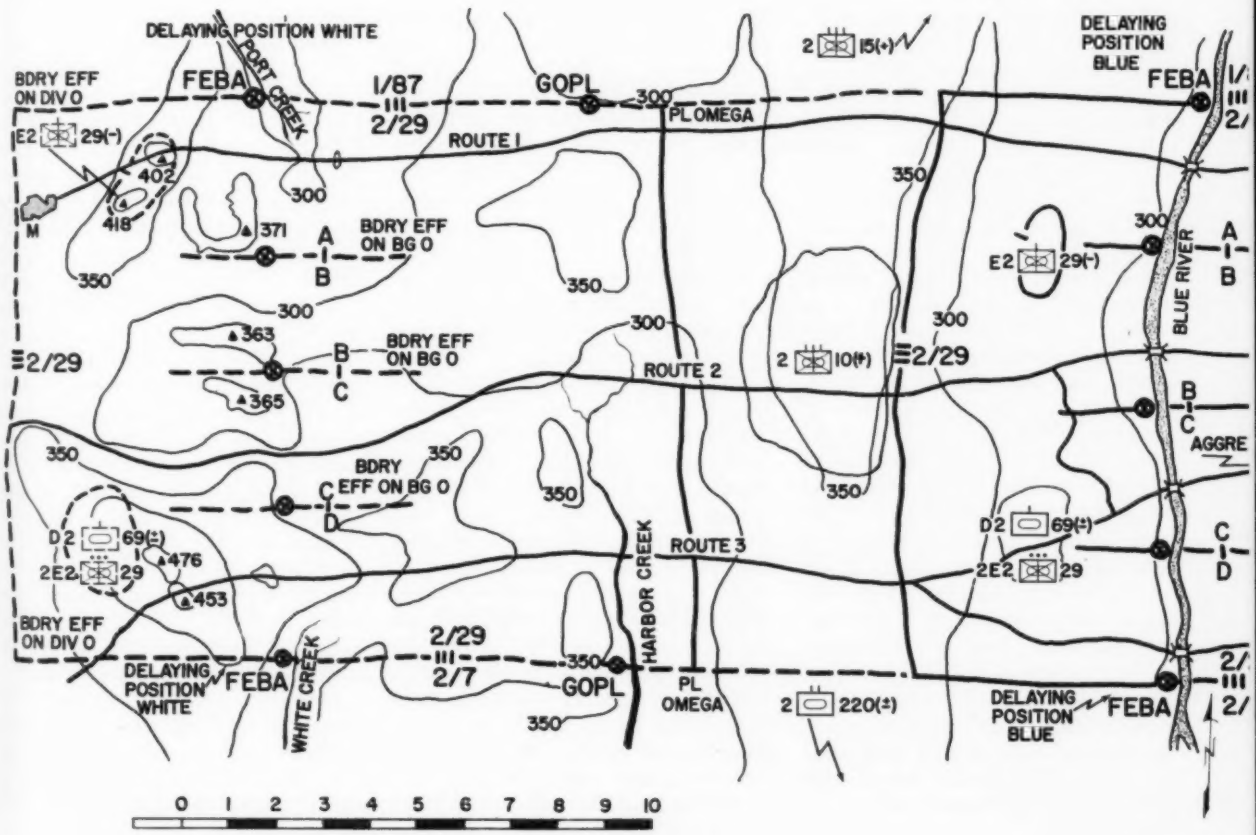

Figure 1

Position WHITE. Include a graphic portrayal of control measures used for the withdrawal.

2. What is the organization and mission of the detachments left in contact?

3. Who will command the detachments left in contact?

4. What is the sequence of withdrawal?

5. How will your plan for the daylight withdrawal differ from your plan for the night withdrawal? Include control measures, security for the withdrawal, and sequence of withdrawal.

SOLUTION TO TACTICAL REQUIREMENT,
Battle Group in Withdrawal
(Figure 2)

In a withdrawal from action, a battle group is normally assigned a zone of withdrawal, with boundaries of the zone extending to the rear to a division covering force or to the new position. Within any restrictions imposed by the higher headquarters, the battle group commander uses those control measures which can best accomplish the withdrawal mission. In this situation, company assembly areas, routes of withdrawal, initial points (IPs), release points (RPs), guides, and traffic posts are designated.* In addition, the battle group commander assigns road priorities and recommends to the division commander the location of traffic control posts (TCPs) along routes of withdrawal. Priority of routes may also be prescribed by the division commander.

Assembly areas should be planned for the night withdrawal. However, their use is not mandatory if the commander senses that movement can be controlled without their use. If they are used, they should be occupied for only the briefest period of time, in order to reduce vulnerability to enemy fires or other reaction. Assembly areas for companies are located well forward, on good routes of withdrawal, to facilitate early re-organization of those units. They should provide for good turnaround space for transportation, for concealment (in defilade where possible), for good entrances and exits, and for minimum lateral movement. The latter point indicates that they should be ideally located directly behind each company. Each commander is responsible for the security of his own assembly area.

IN THIS situation, Companies A and E will use Route 1 in withdrawal to Delaying Position WHITE; Companies B and C will use Route 2; and Companies D of the 29th and D, 2d Med Tk Bn, 69th Armor (±), will use Route 3. Initial points and release points are located on all routes to ensure control of movement. Co E will clear the IP on Route 1 before Co A arrives. Because of its location, Co B will clear the IP on Route 2 before Co C arrives. Co D, 2d Tk Bn, will clear the IP on Route 3 before Co D, 29th, arrives. If additional roads in the area were available, alternate routes would be prescribed to ensure orderly movement to the rear in the event that primary routes are denied by enemy or other action.

Guides and traffic posts are used to facilitate movement. The establishment of three traffic posts, manned by members of the battle group staff, is necessary in this situation. The battle group does not have a capability of establishing traffic control posts; however, the commander may recommend to division the location of TCPs in his area.

The higher commander usually prescribes that the main force of the battle group begin its withdrawal shortly after dark, specifying the exact time. The time for withdrawal of detachments left in contact is specified by division and may be indicated as a prescribed hour, on order, or upon the occurrence of a specified contingency. The division commander also specifies the action to be taken in case of a hostile attack.

Detachments left in contact simulate normal activities of the unit and, within their capabilities, protect the withdrawal of the main body. These detachments normally do not exceed one-third of the rifle strength of the rifle companies, augmented by approximately one-half of the supporting weapons such as mortars, machineguns, and antitank weapons. Elements of the tank company and the radar section in forward company areas, and the reconnaissance platoon, remain as part of the detachments left in contact. Engineer, medical, and other tactical support units will also provide elements for those detachments. Because of the size and composition of the detachments left in contact, they are normally commanded by the DCO, who assumes control at the time the withdrawal begins.

Elements of each type and caliber of artillery and other supporting weapons remain in position to support the detachments left in contact and to aid in maintaining the appearance of normal activities. As much as one-half of the heavy mortar platoon, and approximately one-half of each battery of the DS battalion usually remain in position to support the detachments.

DECEPTION and secrecy are obtained by suppressing the noise of withdrawing units, by simulating normal supporting fires, by conducting normal patrols, by using dummy positions, by blackout and other light discipline, and by simulating normal radar and radio traffic. A skeleton command post is left in position. Tanks and APCs employed with forward forces remain with the detachments left in contact unless overriding considerations dictate otherwise. In such an instance, their withdrawal is accomplished by a ruse, delivery of artillery concentrations, or an air strike.

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* *A TCP is a point at which Military Police enforce traffic control and furnish information and direction. A TP maintains control over movement and prevents intermingling of units.*

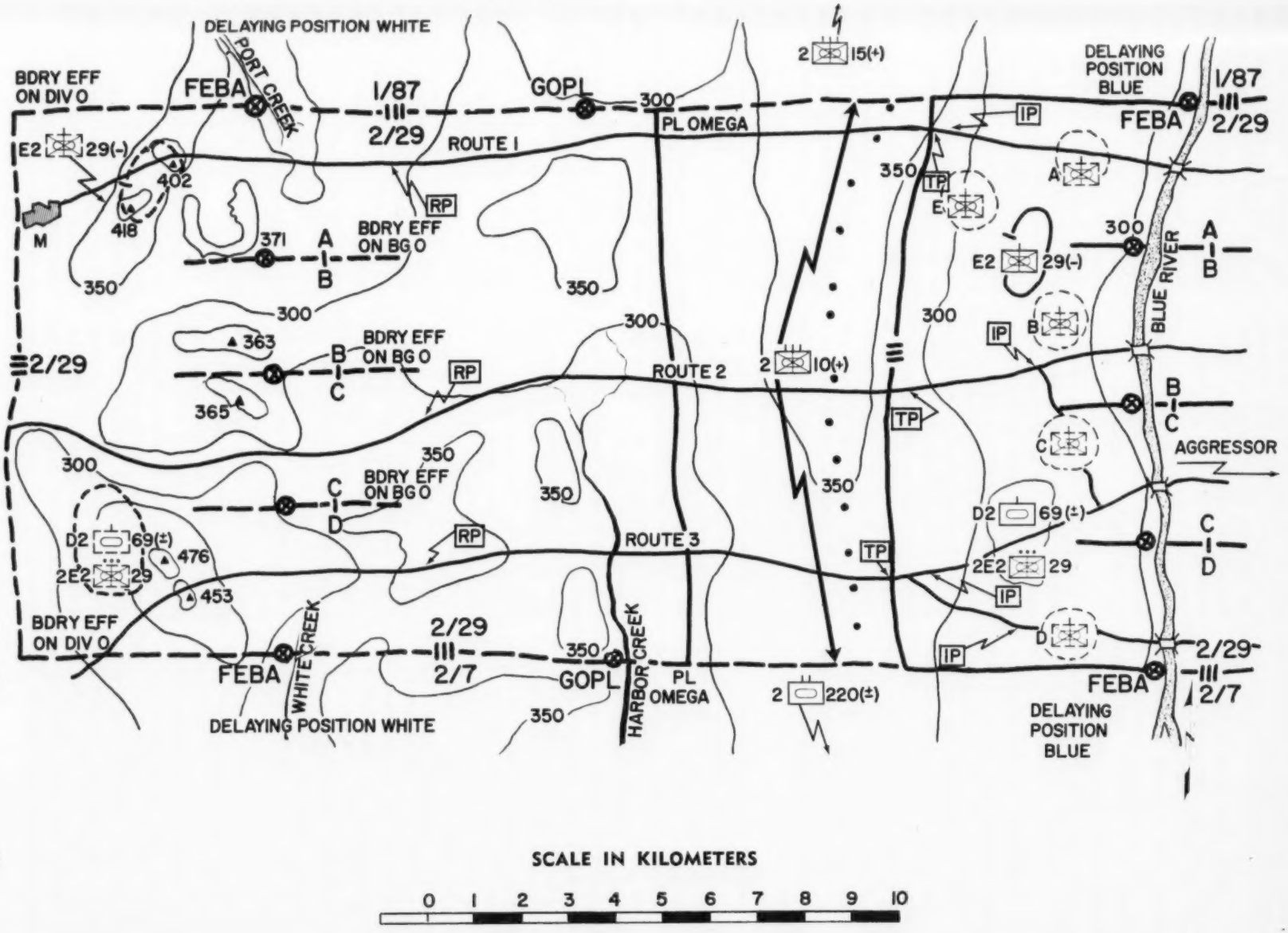

DELAYING POSITION WHITE
PORT CREEK
BDRY EFF ON DIV O
FEBA
1/87
2/29
GOPL
300
PL OMEGA
ROUTE 1
2 15(+)
DELAYING POSITION BLUE
IP
TP
E2 29(-)
402
418
M
371
A
B
RP
BDRY EFF ON BG O
350
363
365
C
D
ROUTE 2
ROUTE 3
2 10(+)
BLUE RIVER
AGGRESSOR
D2 69(±)
2E2 29
476
453
WHITE CREEK
HARBOR CREEK
2 220(±)
2/7
SCALE IN KILOMETERS
0 1 2 3 4 5 6 7 8 9 10

Figure 2

The sequence of the withdrawal is generally as follows:

1. Trains and rear installations usually precede the column to the rear, followed in turn by company vehicles not required by the foot elements or detachments left in contact. If authorized by higher headquarters, these elements may move to the rear by infiltration during daylight.

2. The reserve is normally withdrawn immediately prior to the withdrawal of forward companies, in order to maintain the secrecy of the withdrawal as long as possible and to facilitate orderly movement of the battle group to the rear. If security might be compromised, armored elements of the reserve stay in position and withdraw with the detachments left in contact.

3. All elements of forward companies (less detachments left in contact) begin their withdrawal simultaneously. Using previously designated and reconnoitered routes, units move through squad and platoon assembly areas to company assembly areas, if used, or to other designated positions in the vicinity. Supporting elements which are employed within platoon areas are usually attached to those platoons for movement control purposes. From the assembly areas, or from the IPs, companies move over previously designated routes to the rear positions or destinations. If the battle group is to be employed on a new position, it most often will adopt a deployment similar to that it used on the former position. This procedure simplifies organization and coordination on the new positions.

4. Some supporting artillery and mortars must always be in support of the withdrawal. However, these elements (less those remaining as support for detachments left in contact) are usually withdrawn shortly after the main body initiates its withdrawal. They move to pre-selected positions, adhering to prescribed route priorities, in the rear. If the battle group is to assume a new position, the supporting weapons should move into positions from which to effect immediate support of that position.

5. Detachments left in contact withdraw at the time prescribed by the higher commander.

In the daylight withdrawal, in order to provide space in which to operate, zones of withdrawal back through the division covering force are assigned each forward unit (Figure 3). Assembly areas, routes of withdrawal, phase lines, initial points, release points, guides, road priorities, TCPs, and traffic posts may also be used as required. A covering force is used to secure the withdrawal of the forward elements. A daylight withdrawal is a difficult operation, especially in the face of enemy air superiority, and units moving in column along roads present an excellent target for enemy artillery and air. During periods of reduced visibility (heavy fog, snowfall, etc) a daylight withdrawal may be conducted in a manner similar to that of a night withdrawal.

Assembly areas for forward companies are located to the rear of these companies along a general line immediately to the rear of the battle group covering force. Additional assembly areas for forward units and assembly areas for the battle group covering force are located in rear of the division covering force. Locating assembly areas in this manner provides protection for the assembly. Again, the companies are not required to use assembly areas, but they are designated for use if necessary.

Assignment of zones of withdrawal ensures coordination between adjacent units if they are required to fight during the withdrawal. These are designated by extending boundaries to the rear through the battle group covering force and as far as the companies may be required to move in deployed or dispersed formations. Normally, this is through the division or higher echelon covering force.

NORMALLY each forward company will cover its own withdrawal. The battle group reserve, as the BG covering force, assists the withdrawal by extricating units which become heavily engaged and, insofar as possible, by covering the withdrawal of forward companies. The initial location of this force is such that it covers the area of the most probable enemy action. In this situation, the withdrawal of the BG covering force will be covered by elements of the 2d BG, 10th Inf, located east of Phase Line OMEGA. Therefore, all plans for the withdrawal must be closely coordinated with the 2d BG, 10th Inf.

When the terrain and situation permit, all forward units withdraw simultaneously. If this is not practicable, the units which are least-heavily engaged withdraw first. The fires of organic and supporting weapons are adjusted to assist in the disengagement. Smoke screens are useful in disengaging units, and tactical air support, if available, is used to the maximum. In some situations, it may be necessary to launch limited counterattacks to relieve enemy pressure on forward elements to permit their withdrawal. Of course, a daylight withdrawal is avoided whenever possible.

ESSENTIALLY, that's about it. As this example has shown, planning for a withdrawal from action is not overly complex, and the principles are not difficult to master. What is needed is a knowledge of the fundamentals of retrograde operations, as outlined above, and the ability to apply these fundamentals on the battlefield. When the Infantry commander has gained this knowledge and developed this ability, his chances of success in battle are increased immeasurably.

This article is in consonance with current doctrine as taught at the United States Army Infantry School. The material will be published in a revised Field Manual sometime later this year or early next year.

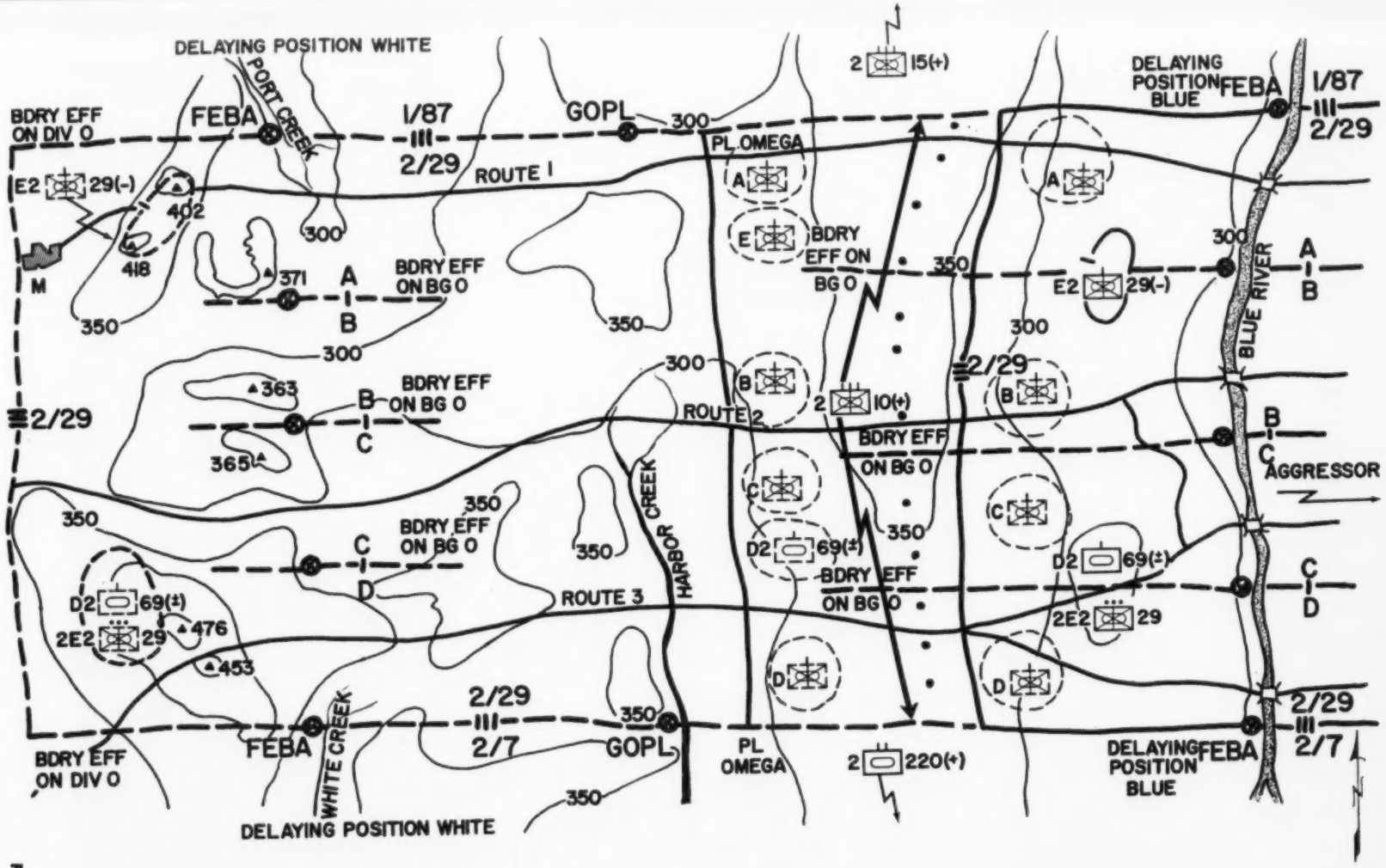

DELAYING POSITION WHITE
PORT CREEK
BDRY EFF ON DIV O
FEBA
1/87
2/29
GOPL
300
PL OMEGA
2 15(+)
DELAYING POSITION BLUE
FEBA
1/87
2/29
ROUTE 1
E2 29(-)
402
418
M
371
A
B
BDRY EFF ON BG O
350
300
BDRY EFF ON BG O
E
A
E2 29(-)
BLUE RIVER
A
B
2/29
363
365
B
C
BDRY EFF ON BG O
ROUTE 2
2 10(+)
B
BDRY EFF ON BG O
AGGRESSOR
C
D2 69(±)
2E2 29
476
453
ROUTE 3
HARBOR CREEK
BDRY EFF ON BG O
C
D
D2 69(±)
2E2 29
C
D
2/29
2/7
FEBA
GOPL
WHITE CREEK
BDRY EFF ON DIV O
PL OMEGA
2 220(+)
DELAYING POSITION BLUE
FEBA
2/29
2/7
DELAYING POSITION WHITE
SCALE IN KILOMETERS
0 1 2 3 4 5 6 7 8 9 10

Figure 3

INFANTRY AROUND THE WORLD

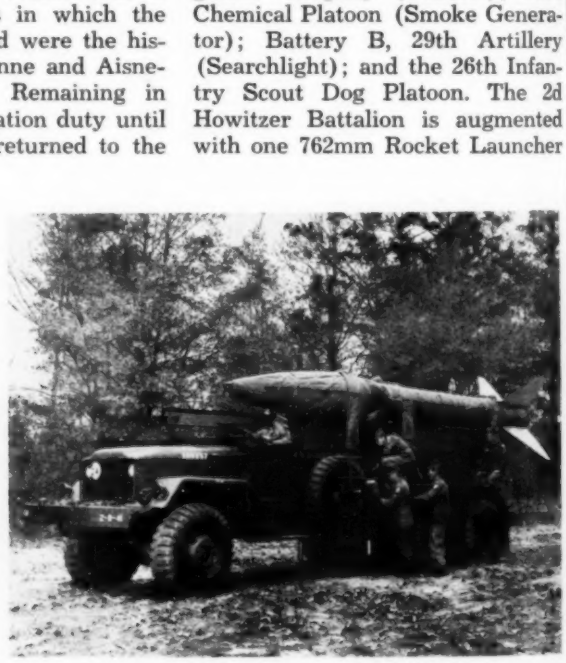
1st INFANTRY BRIGADE

"Gentlemen, the troops and equipment you have just seen in this demonstration of firepower and mobility were furnished by the 1st Infantry Brigade." Similar remarks are echoed daily at the Infantry School. This Brigade, although assigned to Third US Army, is attached to the US Army Infantry Center and has the primary mission of supporting the Infantry School by demonstrating to students the latest doctrine of the combat arms and supporting elements.

The 1st Infantry Brigade was reactivated in July 1958, from the then US Army Infantry School Troop Command. This was significant in two respects: it reintroduced the separate Infantry Brigade in the Infantry, and it restored to active duty a command which had distinguished itself in World War I. Organized on 9 June 1917, as part of the 1st Infantry Division, the 1st Brigade was composed of two of the most noted Regiments in the Army, the 16th and the 18th. The Brigade sailed for France in June 1917, and entered combat in the Sommerville sector, where it earned the distinction of capturing the first prisoners taken by American troops. During this action, three of its members were immortalized as the first Americans to

die in combat in World War I. Among the battles in which the Brigade participated were the historical Meuse-Argonne and Aisne-Marne Offensives. Remaining in Germany on occupation duty until 1919, the Brigade returned to the United States and performed routine peacetime functions until 1939, when it was deactivated. In 1943 it was re-activated as the 1st Airborne Infantry Brigade, at Camp Mackall, NC. However, its period of service was brief, and in January 1944 the Brigade was again deactivated.

Although not now assigned a specific combat readiness (STRAC) mission, the Brigade is a powerful composite tactical force capable of being deployed in minimum time. Organized for its present mission, the Brigade consists of Headquarters and Headquarters Company; 1st Battle Group, 29th Infantry; 1st Armored Rifle Battalion, 58th Infantry; 2d Howitzer Battalion (105/155mm), 10th Artillery; Company C (Patton), 66th Armor; Company D (Patton), 69th Armor; 72d Engineer Company (Combat); 183d Chemical Platoon (Smoke Generator); Battery B, 29th Artillery (Searchlight); and the 26th Infantry Scout Dog Platoon. The 2d Howitzer Battalion is augmented with one 762mm Rocket Launcher



The Brigade Honor Guard carries on the traditions of the past, while modern equipment meets the challenge of the future.

The First Infantry Brigade supports the Infantry School . . .

(Honest John) section, and has four firing batteries, including towed and self-propelled weapons from the 105mm to the 8-inch howitzer.

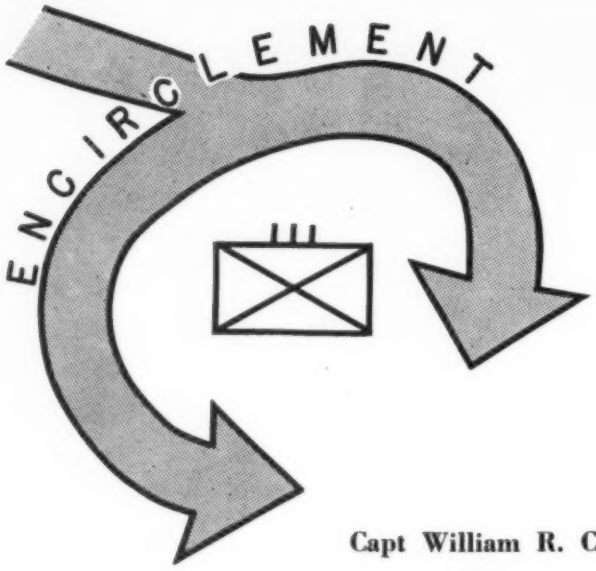
The Brigade and its subordinate units are daily presented a multitude of tasks, varying not only in size and composition, but also in the duties performed. It is not uncommon to see individuals from the Brigade serving as Assistant Instructors in weapons classes; or as a platoon of Infantry, supported by Engineers, demonstrating a river crossing; or as a composite force demonstrating a combined arms operation.

Although heavily committed, the Brigade conducts an intensified training program to further improve its combat readiness. The program includes Expert Infantryman's Badge tests, marksmanship, and unit and organizational field problems. During the past year each organization has held practice alerts and CPXs, and Brigade Headquarters has participated in Army-level training exercises, the most recent being "Exercise Lucky Foxtrot."

The Brigade has distinguished itself in numerous extra-curricular activities. It has had the unique distinction of winning the USAIC Rifle and Automatic Rifle Championships each year since 1958. In the past year, 23 Brigade personnel were placed on USAIC marksmanship teams, and in the Third Army competition Brigade members won 50 awards and established several new records.

While the Brigade's accomplishments and honors rest quietly in history, each member of "The Big White One" is aware of his distinction today. Each man reaps his reward from knowing that his skillful performance of duty, portraying the combat Infantryman in action, provides future Infantry leaders with a realistic picture of combat and the problems they must face in leading the way.

. . . through demonstrations and training assistance.



Capt William R. Colvin, Inf

In commenting upon war and politics, Mao Tse-Tung had the following to say about encirclement:

> "Political mobilization is the most important problem in a campaign against 'encirclement and annihilation.' That is to say, we must clearly, resolutely and fully inform the rank and file of the Red Army and the people in the base area of the inevitable and impending enemy offensive, of the grave peril such an offensive means to them, and at the same time, of the weakness of the enemy, the favorable conditions of the Red Army, our indomitable will to victory, the general plan of our work.... The vital point here is to convince the cadres."

Whether on a tactical or a strategic level, the encirclement of US forces could cause consternation in all ranks. In order for our forces to survive and fight again, our commanders must lead aggressively and competently to promote a display of discipline and fortitude in our cadres.

Why call attention to encircling tactics? Is there much likelihood of our forces' being confronted with this type of operation in future warfare? A study of Soviet and Chinese Communist tactics indicates that in a war with either adversary, our forces can expect attempts to encircle and annihilate us. The primary aim of Soviet offense is total destruction of the enemy, a path often traversed by envelopment or deep strikes into an enemy rear after penetration. When the softer hindquarters are reached, the Communists will encircle to add the *coup de grace*. The Soviets place great stress on enveloping an exposed flank, and, being opportunists, they will attempt to continue the envelopment until the enemy is encircled.

Their Red brothers-in-arms, the Chinese, share the same feelings about encirclement. Among the ten basic military principles of the Chinese Communist Army is the following: "In every battle, concentrate absolutely superior forces (double, triple, quadruple) to encircle the enemy . . . and strive for his annihilation."

Acknowledging encirclement as a prime tactic of the Communists, we should plan and prepare counter-measures and train our Army to be effective in their use. Obviously, we should attempt first to prevent our units from being encircled. However, as currently envisioned, our units will be forced to disperse (in order to avoid becoming lucrative nuclear targets), and these dispersed troop dispositions will be susceptible to encirclement. Presented with this dilemma, we should direct our training toward learning how to survive encirclement. On the battle group level, we should understand three aspects of surviving encirclement—leadership and discipline, tactical measures, and supply and evacuation.[1]

Leadership and Discipline

In an encirclement, a feeling of isolation will permeate the beleaguered forces, breeding fear among the soldiers. *Fear must be controlled.* The commander must act decisively to retain or regain firm control of his unit, or it may gradually turn into an amorphous and ineffective mass of men. During encircling operation by the Russians in World War II, it was common to see groups of German troops un-led, unarmed, loaded with needless equipment, moving in panicked flight.

The battle group commander must quickly assess the situation, inquiring into the state and disposition of his companies. He must quickly reorganize and reconstitute his forces, and redistribute the available material and weapons judiciously. He must attempt to regain communications with friendly forces outside of the pocket, but also must be prepared to carry on without contact.

Clearly and resolutely informing the rank and file is the next most important job of the commander. An honest appraisal, with a firm conviction of success, must carry the words of the commander to his men. Enthusiasm and confidence must reach all ranks. The commander should personally visit his companies and other units, to instill within them faith and an indomitable will to victory. Officers and non-commissioned officers must set the example by their personal conduct, and must demand high standards of discipline from their soldiers. At times such as these, soldiers are acutely aware of their leaders, and only through the leaders' displaying strength of purpose will discipline be sustained.

It is mandatory that unity of command exist within the area of encirclement. In the event that other elements (not attached or in direct support of the battle group) are also forced into the pocket, the battle group commander should exercise immediate control over them if he is the senior officer present.

Tactical Measures

Concurrent with the problem of leadership, the commander must initiate plans for defense of his unit and for breakout from the encirclement. As a general situation, breakout is much less a problem

1. For a discussion of encirclement in relation to lower-level units, see "Isolation," *Infantry*, August-September 1960, p. 62.

early than it is later when the enemy has had time to strengthen his forces and coordinate his actions. However, to say "much less a problem" is relative—breakout is not a slight problem under any circumstances. The actual tactical plans must depend in some measure upon the unit's orders from higher headquarters. If, for example, it has orders to hold its position, then the only plans necessary are those for strong defense and eventual link-up from outside the perimeter. Assume here, however, that the unit has no restrictive orders and is determined to break out of the encirclement.

Obviously, sound planning is necessary. A sense of timing is also necessary, and if *now* is the time to move in order to achieve success, then detailed plans cannot be made. Several factors are critical in leading up to the decision. One is timely intelligence—locations and strengths of the enemy, weak points in enemy dispositions, good avenues of exit toward friendly lines, distance away from friendly lines, weather conditions expected now and later. Another critical factor is the amount of fire support, either ground or air, available to the encircled unit. Can other friendly forces support a breakout? Still a third critical matter is local air superiority. If the enemy has it, then movement *must* be made during times of poor visibility if the unit is to have a reasonable chance of success. Thus, depending upon his hasty estimate and analysis of the situation, the commander determines both a time of attack and a direction of attack.

Surprise is important in determining the degree of success of a breakout. The unit must practice secrecy and deception to their maximum. Several means afford themselves to such a unit. Through the use of feints or demonstrations, coupled with appropriate communications "mistakes," the commander may be able to deceive the enemy as to both his potential and his intentions. During the Russian campaign in World War II, the Germans effectively deceived the Soviets on the true direction of an attack by sending a column of tanks in a direction away from the breakout. Because the Soviets quickly reacted against the diversionary effort of the tanks, the main force in the breakout area encountered little resistance. However, a tactical plan of any nature should never rely implicitly upon deception measures for success. Any deception devised by man can normally be uncovered by another man, with only time separating the two.

None of the breakout plans can be accomplished without maintaining a strong defensive perimeter. During the early phase, the commander should employ his Infantry well out to prevent loss of terrain. The main battle position must be composed of strong points interconnected by closely coordinated fires. Reserves are, of course, within the main battle position. The area in front of the FEBA should be kept under constant reconnaissance by patrols or surveillance by outguards. Artillery and mortars should be under centralized control, so that the fires can be massed or shifted rapidly. Tanks should be attached to the Infantry to furnish antitank protection. (This may be only temporary, however, for the tanks should be prepared to regroup and fight as a mobile reserve.) Remember that strong defensive measures make possible a transition from the defensive phase to the offensive breakout.

Organization for the breakout must be made early, since some of the forces on the perimeter must be shifted to form the four tactical groups required: the breakthrough force, the supporting units, a reserve, and the detachments left in contact. As much as two-thirds of the total force may comprise the breakthrough force which, weighted with assault weapons and armor, makes the penetration. The supporting force—artillery, supply, and medical units—provides continuous support to the breakthrough force. The reserve force, mostly Infantry, executes diversionary attacks and provides momentum to the attack after the penetration is made. Detachments left in contact cover the withdrawal of the other groups from the perimeter.

Supply and Evacuation

To sustain these tactical measures, proper action in matters of supply and evacuation must take place during the encirclement. Supplies that are not needed during the breakout should be destroyed. Weapons that cannot be manned and surplus vehicles should also be destroyed. The commander should attempt to get aerial resupply of critically needed items. However, under many conditions, resupply by air cannot fulfill all the needs of an encircled force. As a result, the commander must also plan for judicious and equitable distribution of all available supplies.

All commanders are morally obligated to take their wounded with them. If available and serviceable, helicopters and other aircraft should be used for the prompt evacuation of casualties. If there is an indication that the wounded might be left behind, morale of the troops will suffer greatly.

ONCE AGAIN though, the essential ingredient for successful survival of encirclement is effective leadership. Without it, even the best of plans can fail, just as in any other operation. Nevertheless, to ensure that our leaders will be *able* to rise to the occasion, we should stress and train in the principles and techniques of surviving encirclement.

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INFANTRY AROUND THE WORLD

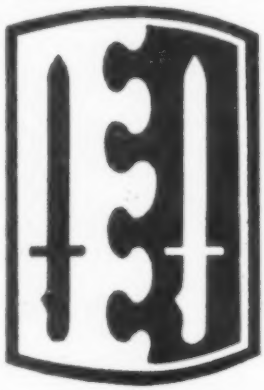
2d INFANTRY BRIGADE

THE HISTORY of New England mirrors the history of the American fighting man. This section of our country, which served as the home of the Minuteman in the Revolutionary War, is now the home of the 2d Infantry Brigade, a unique, modern fighting unit. Its members are STRACmen, a body of crack, combat-ready troops poised for action. Its motto: READY NOW!

The present success of the 2d Infantry Brigade springs partly from its elite heritage. In 1917, Company K, 28th Infantry, then an integral part of the 2d Brigade, had the honor and distinction of being the first unit of the American Expeditionary Forces to land on French soil. In July of 1918, operating as part of the French 10th Army at Chateau Thierry, the Brigade helped turn a German advance into a retreat that ended only when the war was over.

Following the war, the Brigade was sent to Camp Meade, Maryland, where it was demobilized. In 1943 it was reactivated and redesignated the 2d Airborne Brigade at Camp Mackall, NC. Composed of the 507th and 508th Parachute Infantry Regiments, the Brigade was attached to the 82d Airborne Division for the D-Day jump into Normandy.

At the conclusion of World War II, the Brigade was inactivated and

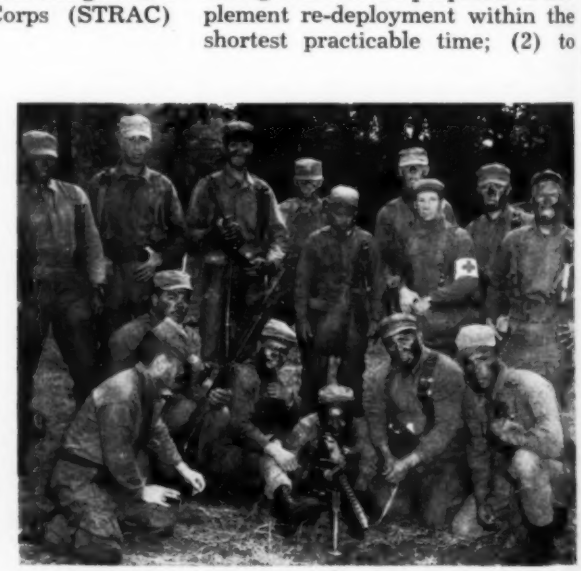


remained so until February, 1958, when it was reactivated at Fort Devens, Massachusetts, as a pentomic-type fighting organization. Following the Lebanon crisis in 1958, the Brigade was designated a Strategic Army Corps (STRAC) unit.

Presently, the training of this "ready around the clock" unit features Ranger training in the Berkshire Mountains of Western Massachusetts, as well as amphibious training conducted at Little Creek, Virginia. Annual Army Training Tests are conducted from as far south as Fort Stewart, Georgia, to Camp Drum, New York, in the north.

Full-scale maneuvers are the highlights of the Brigade's training program. Some of the larger field exercises in which the Brigade recently has participated are "Exercise Big Slam/Puerto Pine," "Exercise Iroquois Hatchet," and "Exercise Mohawk Arrow."

The mission of the Brigade is four-fold. During the summer its primary mission is to support training of National Guard Units, Army reservists and ROTC cadets from the New England area. Throughout the training year, it strives (1) to attain the highest degree of combat readiness compatible with assigned strength and to be prepared to implement re-deployment within the shortest practicable time; (2) to



Rugged training includes Ranger-type patrolling in the Berkshire Mountains.

Training continues during harsh New England winters.

maintain the capability of supporting or supplementing civilian authority in the event of public disaster or emergency; and (3) to maintain the capability of furnishing one or more fully trained cadre for the activation of other brigades or battle groups.

The nucleus of the Brigade is formed by two Infantry battle groups, the 1st Battle Group, 4th Infantry; and the 2d Battle Group, 60th Infantry. These units are supported by two artillery battalions, the 1st Howitzer Battalion, 76th Artillery; and the 3d Howitzer Battalion, 4th Artillery. Each employs 105mm and 155mm howitzers. Armor support comes from Companies F and G, 34th Armor, presently armed with 90mm gun tanks.

Two combat engineer companies, the 712th and 232d, provide the combat teams with support ranging from mine laying to bridge building. The famous Troop F, 5th Calvary, with its light and fast-moving M41 tanks, provides security and reconnaissance for the Brigade.

The Aviation Platoon of Headquarters and Headquarters Company can put 11 rotary and 5 fixed-wing aircraft into the air to support the Brigade's command and combat elements. Helicopters of the 93rd Helicopter Company, also stationed at Ft. Devens, support extensive air-mobility training by the 2d Brigade.

The Brigade's 523rd Transportation Truck Company has an array of 2½-ton vehicles and APCs. These armored personnel carriers give additional mobility and light armor protection to the Infantry elements.

Also within the Brigade's organization is an ordnance detachment, a quartermaster detachment, and a medical detachment.

The members of the present-day 2d Infantry Brigade are proud of its fine record in the past and accept the grave responsibility which is theirs today. They are determined to add their share to the impressive list of commendations which the Brigade already has, for they are skilled, tough, "ready around the clock," and above all they stand READY NOW!

Versatile fighting strength has earned the Brigade the nickname "Vest-Pocket Division."

Battle Group Operations Center

DURING their instruction in operational staff procedures, students at the Infantry School often ask if there is an established procedure for a functional arrangement of the Battle Group S2-S3 Operations Center. The following discussion offers an answer to this question and is being used as an instructional guide for U. S. Army Reserve and National Guard units, Reserve Officers Training Corps, other Service Schools, and Active Army units.

The personnel and major items of equipment organic to the S2 and S3 Sections are shown in Figure 1. Other personnel normally attached to or supporting the operations center are shown in Figure 2.

It is not the purpose of this article to discuss the duties and functions of the personnel who work in the center, but rather to discuss an arrangement which will provide for efficient operation of this element of the command post.

Two primary functions are performed at the S2-S3 Operations Center: (1) To assist in the hour-by-hour tactical control of the battle group, and (2) to plan for immediate future tactical operations. It is not necessary that either or both of these functions take place exclusively at this location, however. Much of the planning, particularly for defense operations, will take place during reconnaissance on the ground in the assigned sector, or at the forward location of the command group. In this case, the command group will then return to the command post after issuance of the oral order to complete the plan and publish the written order.

Normally, primary control of the unit will be retained forward with the command group at a location where the commander has best control. Still, the S2-S3 Operations Center must maintain continuous operation in order to assist in this control. It does this by providing planning space and back-up support to allow the command group to move freely about the battle area. Since it has the facilities and personnel for doing so, the center is also used as a tactical briefing area for the many persons who must stay abreast of the tactical situation. One other requirement is for the operations center to have the ability to displace and still maintain control.

The liaison officers (Figure 1) normally function under the direction of the executive officer or his representative. The battle group commander may make them available for use as assistants to the S3 or other staff sections when they are not engaged in liaison activities. The clerk typists are not organic to the S2 or S3 Section, but are allocated by the S1 to these sections. The general purpose tent, medium, is used as augmentation to the organic van. Figure 3 presents a suggested arrangement of the installation.

To provide a 24-hour round-the-clock operation, the S2-S3 personnel are normally formed into duty shifts:

Duty Shifts

NR 1
Asst S2
Op Sgt
Asst Intel Sgt
Arty Liaison Officer
Mort Liaison Agent
Clerk

NR 2
Asst S3
Intel Sgt
Asst Op Sgt
Mort Liaison Officer
Arty Liaison Sgt
Clerk

S3 SECTION	S2 SECTION
Personnel	
1 Major, S3	1 Major, S2
1 Captain, assistant S3	1 Captain, asst S2 & S2 air
1 Captain, S3 air	1 MSgt, intel sgt
2 Captain, liaison off	1 SFC, asst intel sgt
1 MSgt, op sgt	
1 SFC, asst op sgt	1 E4, clk typist
1 E4, clk typist	1 E3, Driver-radio op
4 E3, driver-radio op	
Equipment	
5¼-T with trailer	1 Typewriter
(1) S3 (w/AN/VRQ-3)	1 Duplicating Mach, Stencil
(1) S3 (w/AN/VRC-18) AN/GRR-5 AN/VRC-24	1 Draft-Duplicating Set
	2 Radiacmeters IM-108/PD
	4 Radiacmeters IM- 93/UB
(1) S2 (w/AN/VRC-18)	1 Photo-Interpreter Set
(2) Liaison Off (w/AN/VRC-18)	1 CP Lighting Set w/generator

1 2½-T Van with trailer (augmented with general purpose medium tent)

FIGURE 1

With the "duty shift" concept and organization, a balance of intelligence, operations, and fire support personnel are maintained in each shift.

During combat operations, the battle group commander may form a command group to operate forward of the command post. It has no fixed composition, but consists of personnel who can best assist the commander in a given situation. Normally, this will be the S2, S3, fire support coordinator or his representative, forward air controller, and necessary liaison and communication personnel, along with vehicles equipped with command radio facilities. The command group personnel are not included in a duty shift.

To insure continuous operation during displacement, the performance of operations in two locations is required for limited periods of time. Assuming that the on-duty shift is shift number one, and the off-duty shift is shift number two, a "jump" capability is obtained in this manner: Upon notification of a CP displacement, the duty shift operating in the van moves into the tent, leaving an up-to-date situation map in the van. The van moves in the alternate CP area where the off-duty shift is picked up. The off-duty shift then moves to the new CP area and establishes the Operations Center. The old and the new command posts are opened and closed simultaneously. Usually, the first element to displace is the battle group command group, moving in its organic transportation. Displacement of the miscellaneous personnel who are not a part of the duty shifts is accomplished in their own transportation.

The preceding idea, while based on study and experience at USAIS and on reports and tested SOPs of numerous battle groups in the field, is recognized as only one solution. Other solutions will vary with the personalities, skill, and experience of personnel assigned, and with the percentage of TOE strength available.

This article is in consonance with current doctrine as taught at the United States Army Infantry School.

ARTILLERY LIAISON SEC.	MORTAR LIAISON SEC.
Personnel	
1 Capt, liaison off	1 Lt, liaison off
1 Sgt, liaison sgt	1 Sp4, liaison agent (driver-radio operator)
1 Sp4, liaison spec (driver)	
1 PFC, driver-radio operator	
Equipment	
2¼-T with trailer	1¼-T with trailer
1 AN/VRQ-2 (AN/GRA-6)	1 AN/VRC-18
1 AN/PRC-9	

CO tank co
Liaison off from div or adjacent unit
Combat support section leader
Forward air controller
Interrogator prisoner war off
CIC representative
CO reserve units and other supporting units

FIGURE 2

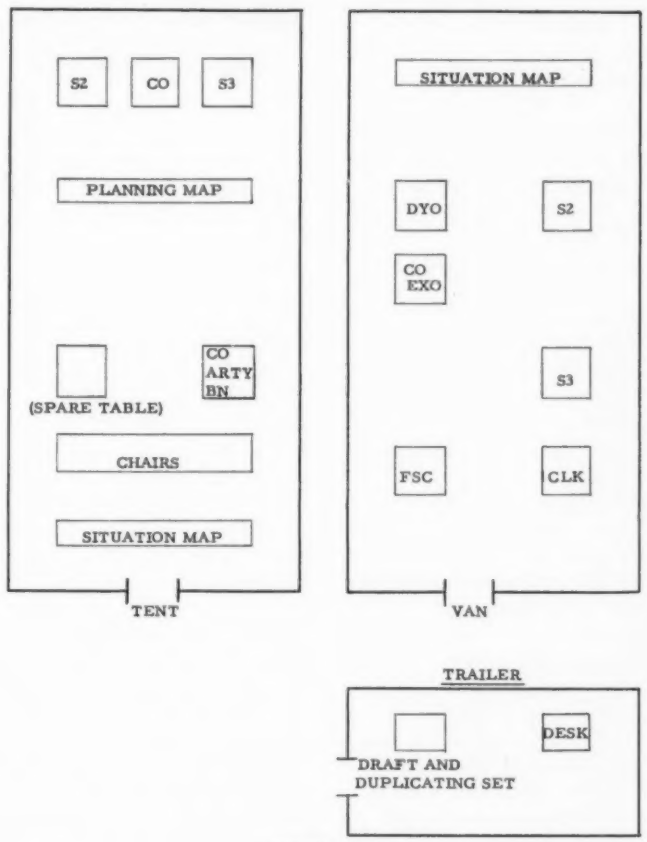


FIGURE 3

ENGINEERS AS INFANTRY

Capt James H. Phillips, CE

"The difficult we do immediately; the impossible may take a little longer," say the Infantry Division Engineers, who have the mission of supporting the advance or withdrawal of the division by construction and destruction. These same Engineers also have the mission of fighting as Infantry when required. More than once in recent conflicts they have proved themselves as fighters on the battlefield. At Mount Porchia, Italy, in World War II, for example, it was an Engineer combat group, employed as Infantry, which made possible the capture of the mountain and the continued Allied advance north to Cassino. There are many other examples, too numerous to mention, of Engineer successes and gallantry in combat. Suffice it to say that it has always been a source of comfort to the Infantry commander to know that among his support elements there were troops who could be employed as Infantry on more than a mere "stopgap" basis.

Recently, however, there has been a change in the TOE of the Engineer Company which affects the ability of the Engineers to conduct Infantry-type operations. It might be profitable, therefore, to take another look at the whole subject of Engineers employed as Infantry.

Under Change 1 to TOE 5-17D, the size of an Engineer squad has been reduced from 12 to 10 men. Although two men have been added to platoon headquarters, the net effect is a reduction of 10 men in each Engineer company. More revealing are the changes in weapons available. A reduction of ten rifles, of course, reflects the decrease in personnel. But there has also been a reduction in other weapons. Whereas under the old TOE each company had three heavy (.50-cal) machineguns, six light (7.62mm) machineguns, and six 3.5-inch rocket launchers, the new TOE calls for only one .50-cal MG, two 7.62mm MGs, and two rocket launchers. With these extensive changes in personnel and weapons in mind, let's take another look at the employment of the Engineer company as Infantry.

An Engineer squad enroute to a project is caught in the line of enemy fire, which it must neutralize before proceeding.

An Engineer company is generally in direct support of, or attached to, each of the committed battle groups of the division. The remaining company (or companies) of the Engineer battalion are in general support of the division. Since this is the recommended method of employment for Division Engineers, it is reasonable to assume that many of the Infantry missions assigned the supporting Engineer company will come via the supported battle group commander.

Prior to committing his Engineers as Infantry, the battle group commander should consider several important questions. Will the major command be jeopardized if the Engineers are not committed? Can the command afford to do without Engineer support during the time the Engineers are committed as Infantry? Does the Engineer unit have enough personnel to be employed effectively? Will the mission be of a defensive or offensive nature, and what supporting fire and logistical support is available to assist the Engineers in their mission?

There are many situations that may arise which would require a BG commander to commit an Engineer company in the role of Infantry. Some of the more typical situations are an extended defensive front, a sudden enemy penetration or turning movement, an enemy air drop or an organized guerrilla activity in a rear area, or a need to relieve a combat force that must be committed to a more decisive combat role elsewhere.

Since a defensive type of mission is the one most often assigned the Engineers, let us take a look at the Engineer company in the defense

and see what we can expect from the company in this role.

Before being committed as Infantry in a defensive situation, the Engineer company must assemble its personnel, who will be working throughout the BG area, and send its Engineering equipment to the rear. This will reduce the foxhole strength of each squad to nine, since the men who take this equipment to the rear will stay there to secure and maintain it. The equipment and the required security personnel will be under the control of the company executive officer, who is expected to quarter his "command" in the general vicinity of the battle group trains area.

Once the equipment has been moved to the rear, the company commander will have immediately available to him a company headquarters (5 men) and two platoons, each platoon consisting of one officer and thirty-one men. Both of these platoons are then maneuver elements for the company, which means that the company commander lacks a fire support element. This difficulty can be partially overcome by the platoon leaders' "reinforcing" the firepower of one of their squads.

The platoon leaders are able to form a reinforced squad by assigning two men, armed with a 7.62mm MG and a 3.5-inch rocket launcher, to one of their three squads. These men and weapons are assigned to platoon headquarters by TOE. By weighting one squad, each platoon leader has two rifle squads and one reinforced squad with which to fight.

Each rifle squad will have a fire and a maneuver element. The maneuver element will consist of four riflemen, while the fire element (4 men) will be built around the M14 rifle (modified). The maneuver and fire elements have team leaders who are directed by the squad leaders.

The leader of the reinforced squad from each platoon commands ten men. A gunner and assistant gunner each man the M60 MG, the M14 (modified), and the rocket launcher. Four riflemen provide the necessary close-in protection for the reinforced squad. Under ideal conditions, the company should be able to defend an area up to 1000 meters in width and 400 meters in depth. The size of the defensive area assigned the Engineer company will vary with the terrain and situation, however, and the reader must remember that these are guide figures only. Distances and defense methods will again vary if the company is defending a work site.

In order for the Engineer company to man a sector approaching 1000 meters, it will be necessary for the battle group commander to make indirect fire support available to the company. If the battle group has any mortar or artillery barrages available, they would be used to cover the most dangerous avenue of approach into the company area. However, the important thing is that the battle group provide forward observer teams to the Engineer company to fire mortar and artillery concentrations on call.

The Engineer battalion commander may be able to assist his own company commanders by making available to the companies one or more combat engineer vehicles (CEVs). Three CEVs are organic to the battalion. The 165mm gun mounted on the CEV would materially assist the Engineer company commander in defending his position. Should the Engineer company be fortunate enough to have a CEV, it should position that vehicle to cover the most dangerous tank approach into the company area.

To occupy and cover by fire a frontage of 1000 meters, the company commander would have to put his two platoons on line. If there is to be a reserve, the fact that the company has only a limited force from company headquarters (5 men) with which to organize it necessitates taking from frontline forces the minimum force necessary to form the company reserves. Usually, the commander will withdraw one maneuver element from each frontline platoon. The first sergeant commands the reserve force, with the company armorer acting as gunner on the .50-cal machinegun assigned to the squad.

After creating the reserve force, the Engineer company commander will have three men available to assist him in controlling the company—a radio operator, a jeep driver, and a messenger.

Communications present a problem to the company in the defense. The Engineers will net with the battle group via the company VRC-18, which is with the company executive officer. Direct com-

munication between battle group and the company commander must be pre-arranged through the company executive officer. The company commander can use his VRC-10 to net with his platoon leaders, who have the same radio. Each platoon leader will use his VRC-10 to contact his squads, or the platoon leaders may position themselves so they can use one of the squad PRC-10s to contact the other two squads.

The reserve force commander will not have radio contact with the forward squads; however, there are sufficient telephones in the company to give the reserve force contact via land lines to the forward forces.

When the Engineer company is defending a frontage of 1000 meters, the forward forces of the company are extremely thin, and the reserve is of necessity small; therefore, the company reserve can do little more than provide the front-line platoons with additional fire support.

There are occasions when the battle group commander must commit all available units to cover an assigned offensive area. Should this happen, it is logical to assume the Engineer company would be assigned its share of the area. How large a "share" should be assigned to the Engineer company?

In the attack, the Engineer company can cover physically and by fire approximately 400 meters. To cover an area of this size will require "jockeying" on the part of the company commander, and some fire support from the battle group. As was the case in the defense, the battle group commander should make forward observer teams available to the Engineer company for its use. If possible, the Engineer battalion commander would again assist by providing one or more CEVs.

We must assume that the company commander will want to have a reserve force. This reserve could influence the action by assisting the lead elements in taking the objective, aiding in the reorganization portion of the attack, establishing a blocking position, and assisting in holding the ground which leading elements have captured. As in the defense, this reserve force will have to come from the front-line platoons.

One method of organizing for the attack would be to take a rifle squad from one platoon and attach it to the other platoon. The reinforced platoon would then have three rifle squads and a weighted squad. This platoon would be the assault element of the company. The platoon minus (one rifle and one reinforced squad) would constitute the company reserve. Thus, the maximum forces would be forward, the reserve forces would be a homogeneous rather than heterogeneous group, and the assault and reserve elements are each officer-led.

The reduction in firepower and personnel brought about by the change in the TOE of the Engineer company has reduced that unit's capability of carrying out its mission to fight as Infantry; however, the company can and should still be expected to accomplish Infantry missions. It is up to you, the Infantry commander, to be aware of the combat strength, capabilities, and limitations of the Engineer company.

The United States Army Infantry Museum, at Fort Benning, has set aside one floor of a building where each Active Army Infantry Division and Brigade will have a permanent display. All Divisions have been asked to submit material for their respective displays, and have been allocated an equal amount of space. The response has been enthusiastic, and increments of displays have begun arriving from nearly all of the fourteen units. The photo shows the only display which was complete as of our copy deadline. Some units are providing their own display cases where feasible. Other mahogany cabinets are being fabricated locally, using such funds as the Museum can acquire. The Museum, as a non-appropriated fund activity, cannot solicit money or material. It is estimated that it will be several months before the first phase of displays for the Infantry Division Room will be completed. When larger and more permanent quarters are available, it is planned that USAR and National Guard Infantry Divisions be represented.

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Anti-Jamming

Lt George D. Livingston, Sig C

"I'm being jammed, I can't get through, Sir!" Yes, you may well hear that alarming report from your radio operators in training or in combat.

The key to anti-jamming measures is the capability of the operator to "work-through," that is, to get the message through by utilizing every technique available with all the skill he possesses.

The radio operator reports jamming immediately to his communications supervisor, who will immediately send the report to higher headquarters for action. All jamming reports are classified at operator level, and in most commands they are classified SECRET. Jamming information should be recorded on the Operators Log (DA Form 11-53) and should include:

- Date/time group.
- Frequency being jammed.
- Width, intensity, and type of jamming signal.
- Time, duration, and direction of jamming, including any repetition.
- Effect of jamming on radio communications.
- Unit, and name and rank of operator making the report.

The operator must avoid showing that the jamming is taking its toll. If the enemy is led to believe that his jamming is causing little or no inconvenience, he may shift his jamming to other targets. There are a few simple check lists that can be utilized to minimize the effect of enemy jamming.

Commander and Staff Checklist

- Reduce use of radio to a minimum.
- Use brevity codes to effect plans and directives.
- Keep messages short.
- Stress radio discipline and security.
- Inform higher headquarters of jamming.

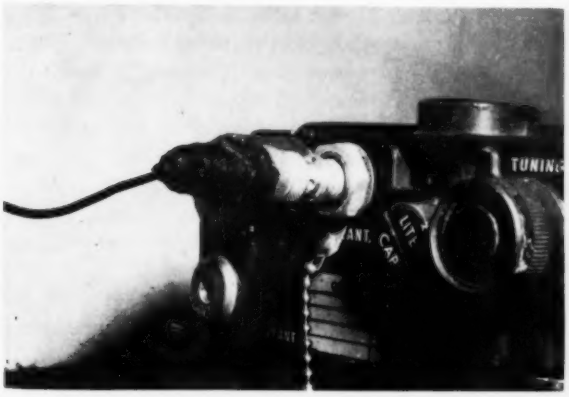
Communications Officer's Checklist

- Use radios only when necessary.
- Train operators in anti-jamming techniques.
- Enforce radio discipline, security.
- Insure SOPs are followed.
- Change call sign when frequencies are changed.

Operator's Checklist

- Operate at minimum necessary power.
- Switch to high power and retune for maximum RF output when jamming is suspected.
- Speak slowly and clearly during jamming. If required, repeat each word twice or spell words phonetically.
- "Detune" the set .1 mc up or down, depending on SOP, if difficulty persists.
- Put a mask (hill, house, wire fence etc.) between self and the enemy's jamming signal.
- Use directional, field-expedient, long-wire antenna, easily constructed by running field wire WD-1/TT for 100-150 feet in direction of the distant station. If possible this wire should be 10-20 feet above ground. This can easily be constructed in garrison by soldering a UG-255 connector to one end of the field wire and attaching a wood or plexiglass insulator to the other end. In an emergency, the field wire may be connected directly to the antenna connector on the radio.
- Change frequency as a last resort. The operator should do this only on order, at a prearranged code or time schedule.
- At all times, the operator must remember to report all jamming immediately; use dummy antenna if possible to tune the transmitter; KEEP OFF the air except when necessary; observe radio discipline; and, most important, when jammed, keep calm, keep trying, and keep operating.

To insure that the voice of command will always be available, commanders at all levels must require that a comprehensive and continuous anti-jamming training program be implemented.



Field expedient antenna showing terminal attachments — plexiglass insulator left; UG-255 connector on AN/PRC-10, right.

REORGANIZATION OF THE INFANTRY—II

This is the second in Infantry's *series on the new organization of the Infantry. It was compiled by the* Command & Staff Department, USAIS. *Future series will delve into new doctrine for tactics.* Ed.

As THE United States Infantry faces the challenge of the future, one fact is increasingly evident—the operational environment of the future will be one in which tactical nuclear weapons will either be used freely, or at the very least, be a threat hanging over the heads of any forces on the battlefield.

Immediately discernible is the requirement for dispersion, the effects of which can be appreciated by seeing Figure 1. You can see a representation of the strength of a former Infantry battalion depicted against a scaled representation of a "normal" area of responsibility. To the same scale, the lower graph portrays the strength of the new battalion superimposed on the proposed area of responsibility of this new maneuver element. This requirement for dispersion creates an urgent need for increased mobility, better firepower, improved command and control, effective surveillance, and the development of an organizational structure which brings combat capability to its maximum, and yet reduces administrative support.

In recognition of this need, in December 1960, the Department of the Army directed that the pentagonal Infantry, Airborne Infantry and Armored Divisions of the post-Korean war era be reorganized into Infantry, Airborne, Mechanized, and Armored Divisions. As a result of experience gained from previous organizations, the strength of each division is approximately 15,000 men as against 17,460 men in World War II and Korean War Infantry divisions, and 13,748 men in the pentagonal division. The rifle squad

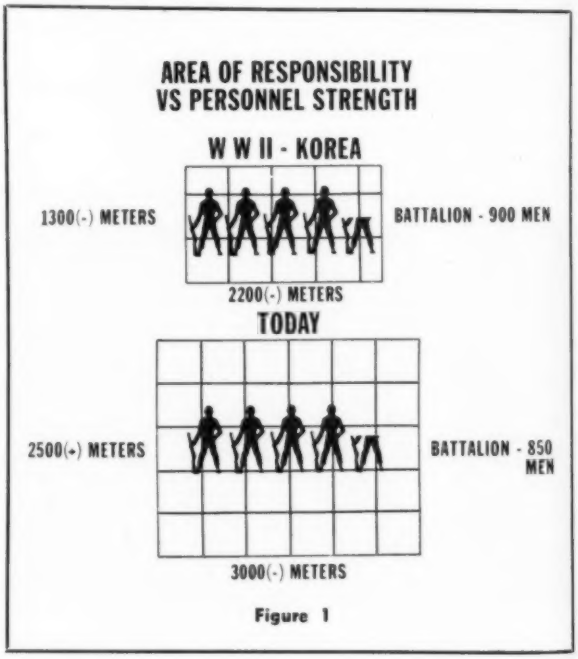


Figure 1

TOEs Subject to Changes.

RIFLEMAN STRENGTH INFANTRY DIVISION

	TRIANGULAR DIV	PENTOMIC DIV	ROAD DIV
SQDS PER AERO PLAT			4
SQDS PER PLAT	3	3	3
PLATS PER CO	3	3	3
COS PER BN	3		3
COS PER BG		5	
BNS PER REGT	3		
BNS PER DIV			8
BG PER DIV		5	
REGT PER DIV	3		

	SQDS		MEN		TOTAL MEN
TRIANGULAR DIVISION	243	X	9		2187
PENTOMIC DIVISION	225	X	11		2475
ROAD DIVISION	216	X	10	2160	
	4	X	9	36	2196

Figure 2

strength is as shown in Figure 2. The division has three brigades to which two to five battalions are attached as its basic maneuver elements.

All divisions (Infantry, Airborne, Mechanized, and Armor) were organized based on the following principles:

1. Headquarters are as small as possible, yet are capable of sustained 24-hour operations.
2. Organizations are designed to employ equipment available.
3. Organizations at each echelon are similar and as nearly identical as possible.
4. All organizations can be tailored at any echelon for the tactical or strategic situations and environment.
5. At each echelon, units will be organized for combat to provide those means habitually required to perform their mission.
6. All different type divisions have common division headquarters and division troops.
7. Divisions' organizations have the flexibility of being tailored to best perform their contemplated missions.
8. Organization for combat is routinely accomplished at battalion and higher echelons.
9. Integration of combined arms and essential services is accomplished at the first echelon below division.
10. Organization of brigade headquarters is standard in all types of divisions.
11. Brigade echelon is a tactical headquarters to control the operations of attached tactical battalions.
12. Administrative support units of the division are organized to provide support sections for independent operations of major division elements.
13. Within the division, administrative support is organized on a functional basis.
14. Administrative support functions are retained to a maximum degree at levels above the division to allow division and lower echelon commanders to devote maximum attention to tactical operations.
15. The battalion echelon is the basic maneuver element of the division.
16. The battalion echelon is tactically and partially administratively self-sufficient.
17. Battalions are TOE organizations and are essentially of one arm.

The mission of Infantry is unchanged—"To close with the enemy by means of fire and maneuver in order to destroy or capture him or to repel his assault by fire, close combat, and counterattack." Man is the ultimate weapon in any conflict, and it follows that the organization of divisions and all of their materiel is geared to support the individual. To enable the Infantryman to accomplish his mission of closing with and killing or capturing the enemy, we must have a balanced force of men and materiel, an organization with the equipment that will allow the individual to shoot, move, and communicate effectively. In discussing the organization, we will progress from the squad, platoon, and company to the battalion.

The Rifle Squad

This unit (Figure 3) is the ten-man rifle squad, which consists of a squad leader and two fire teams. These fire teams are controlled by fire team leaders, or fighter-leaders as they are known. One fire team of five men consists of a fighter-leader and two men armed with the M14, one man armed with an M14 modified, and one man armed with the M79. In the

RIFLE SQUAD, RIFLE PLATOON

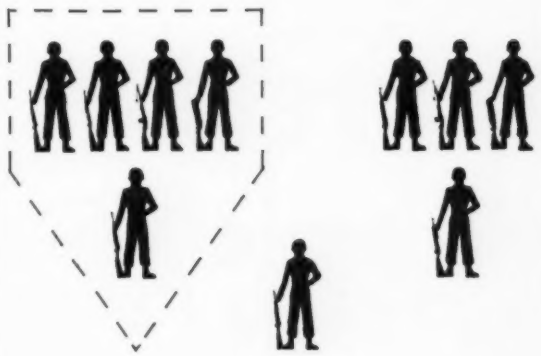


Figure 3

other fire team of four men, two men are armed with the M14, one man with the M14 modified, and one man with the M79. The M14 modified has the cyclic rate capability of firing 200-250 more rounds per minute than the old automatic rifle. The M79 is an area support weapon, firing a 40mm projectile, at ranges up to 400 meters. The *mechanized* Infantry rifle squad is provided a personnel carrier. One of the riflemen in the heavy fire team is assigned the additional duty of driving. Also organic to the squad is one AN/PRC-6 for communicating within the platoon command net. The mechanized rifle squad carrier has mounted either an AN/GRC-8 or an AN/VRC-7. There are three rifle squads organic to all rifle platoons, and they represent the basic maneuver elements of the platoon.

The Weapons Squad

To give the rifle squads additional fire support, the rifle platoon is provided with a weapons squad (Figure 4). This is an 11-man organization consisting of the squad leader, a gunner and an assistant gunner for each of the two M60 machineguns, a gunner and assistant gunner for each of the two 3.5" rocket launchers, and two ammunition bearers. The *mechanized* Infantry weapons squad is provided a personnel carrier. One of the two ammunition bearers is assigned the additional duty as driver of the carrier. Organic to each squad is one AN/PRC-6 for communicating within the platoon command net. The *mechanized* weapons squad carrier has a mounted AN/GRC-8. There is one weapons squad organic to each rifle platoon.

As exemplified in these squads, overall firepower of the division has been increased, and in a manner that has greatly simplified logistical support. The adoption of the M14 rifle, the M14 rifle modified, and M60 machinegun has permitted the replacement of five different weapons formerly used. In addition, the M14 rifle and M60 machinegun fire the NATO 7.62mm cartridge. This will simplify our supply requirements and will permit procurement of ammunition from other forces within NATO.

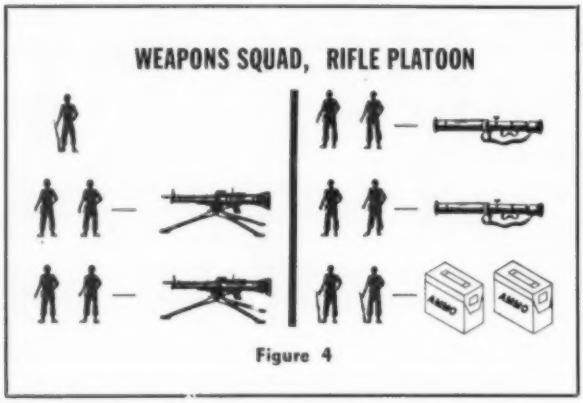


Figure 4

The Rifle Platoon

By combining the three rifle squads, a weapons squad, and a control headquarters, the rifle platoon is formed (Figure 5). The platoon headquarters consists of an Infantry lieutenant as Platoon Leader, a Platoon Sergeant, and a radio/telephone operator. Organic to platoon headquarters are two AN/PRC-6s and one AN/PRC-10 for communicating within the platoon and company command nets respectively.

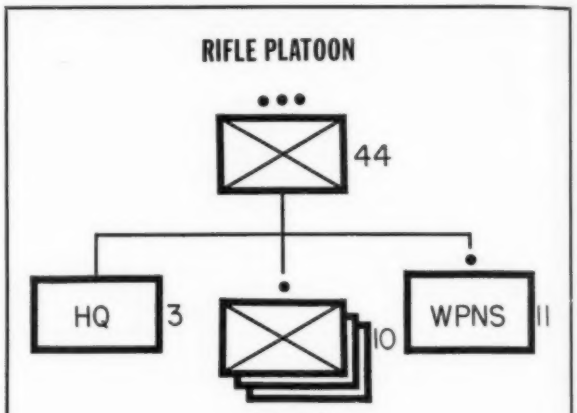


Figure 5

The Weapons Platoon

To give these units additional protection and indirect fire support, a weapons platoon is provided (Figure 6). It is organized with an antitank section, an 81mm mortar section, and a platoon headquarters.

Within the antitank section we find two squads and a section headquarters. Each of the antitank squads is equipped with the ENTAC, a wire-guided missile mounted on a ¼-ton truck. Normally, the assault weapons squads are employed well forward to take maximum advantage of the wire-guided missile's range of approximately 1800 meters, and to permit engagement of enemy armor as far forward as possible. Each antitank squad is supported by one ¾-ton truck.

Three 81mm mortars provide indirect fire support for the rifle platoons to ranges in excess of 3650 meters. One mortar is found in each mortar squad. Organic to the 81mm mortar section headquarters is a sergeant as section leader, and the fire direction and communications personnel required to employ these weapons effectively in the indirect fire role.

The 81mm mortar squads of the Infantry and airborne Infantry are transported by a ¾-ton truck and trailer. Carriers are employed for transport of the *mechanized* Infantry 81mm mortar squads. Within the weapons platoon headquarters, we find an Infantry lieutenant as Platoon Leader, a Platoon Sergeant, and a radio/telephone operator. Weapons platoons have eight organic AN/PRC-10s—one in platoon

headquarters, five in the 81mm mortar section headquarters, and one with each of the two antitank squads. For the *mechanized* Infantry weapons platoon, in addition to the above, mounted in carriers are three AN/VRC-7s (one used by each of the mortar squads) and two AN/GRC-8s, one in the mortar section and one for the platoon headquarters. One weapons platoon is organic to each rifle company.

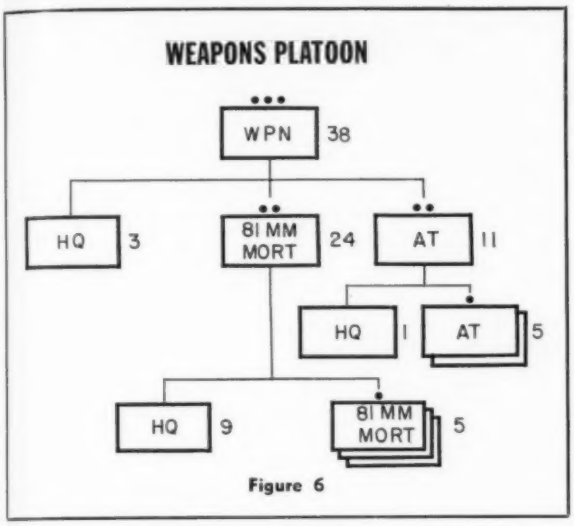


Figure 6

Rifle Company Headquarters

The company headquarters is organized into a Headquarters Section and a Ground Surveillance Section. The headquarters provides command and control, plus administrative and logistical support for subordinate elements of the rifle company. The ground surveillance section consists of two short range radar teams of two men each, controlled by a section leader. The short range radar, known as the AN/PPS-4 or "Silent Sentry," is an all-weather radar for detecting and locating moving targets within its line-of-sight ranges. Within the ground surveillance section we find two AN/PRC-10s for disseminating information.

The *mechanized* Infantry company headquarters is organized into headquarters, ground surveillance, *and maintenance* sections. The addition of the maintenance section is due to increased maintenance requirements to support tracked vehicles.

Command and control of subordinate elements of the Infantry and airborne Infantry rifle company are partially exercised through the six AN/PRC-10s and two AN/VRQ-3s organic to company headquarters. In the *mechanized* Infantry rifle company, command and control are accomplished through the six AN/PRC-10s, two AN/GRC-7s (mounted in ¼-ton truck and personnel carrier), and one AN/GRC-8 (mounted in ¼-ton truck). Control of the *mechanized* Infantry maintenance section is exercised through two AN/GRC-8s (mounted in personnel carrier and tank recovery vehicles) and one AN/VRC-18 (mounted in ¾-ton truck). Commanded by an Infantry captain, the rifle company (Figure 7) is the basic maneuver element of the Infantry battalion.

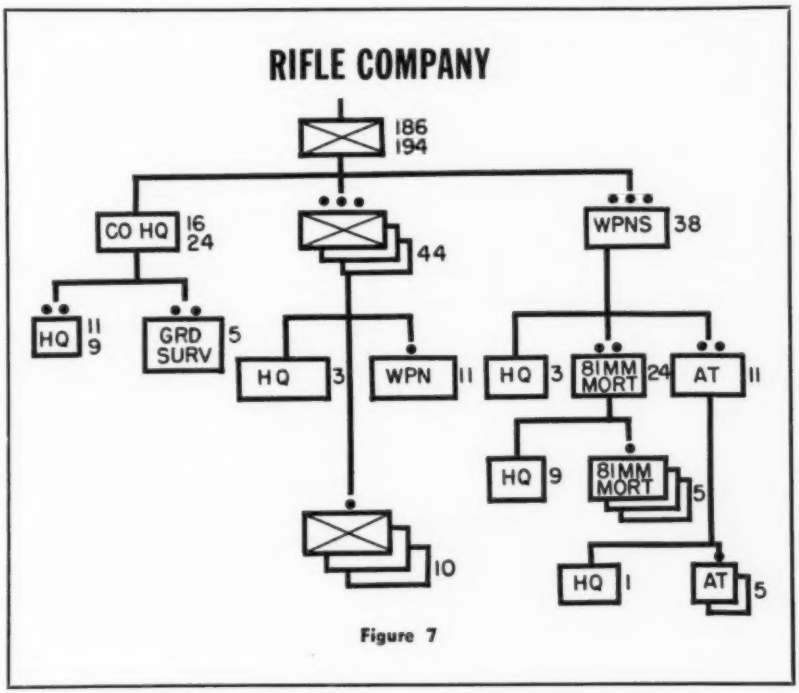


Figure 7

The Infantry Battalion

To command the other combat and administrative elements of the Battalion, we have a Headquarters and Headquarters Company. This company is unique in that all of its platoons operate under the staff supervision of a member of the battalion staff and receive their missions in the battalion operation order.

Heavy Mortar Platoon

The Heavy Mortar Platoon (Figure 8) extends the indirect fire support available to the battalion commander out to more than 5400 meters. The platoon is equipped with four 4.2-inch mortars and contains the necessary personnel to employ these weapons effectively, including three FO teams of two men each. When *mechanized*, the squad is furnished a a self-propelled, full-tracked carrier for the mortar.

In addition, the battalion commander has nuclear weapons responsive to his command through the Davy Crockett Section. The section is equipped with one light Davy Crockett and two heavy Davy Crockett weapons. Note that the Davy Crockett section consists of three personnel, and with authority of CONARC or the overseas commander, this can be increased to nine personnel. (The term "DC Augmentation" in Figures refers to this point.) Personnel must be cross-trained from the resources of the battalion to assist in the firing of Davy Crockett.

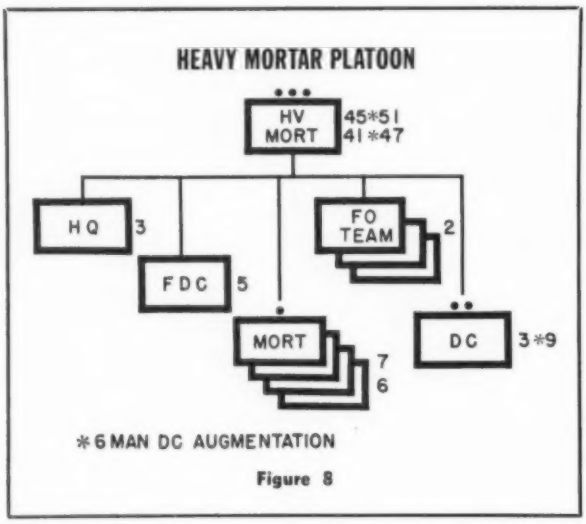


Figure 8

Reconnaissance Platoon

The Reconnaissance Platoon (Figure 9) assigned to Infantry and airborne Infantry battalions is organized with a tank section, equipped with two ¼-ton trucks mounting 106mm recoilless rifles; a scout section, equipped with seven ¼-ton trucks, each mounting an M60 machinegun on a pedestal mount; and a support squad equipped with one 81mm mortar. When the platoon is assigned to the *mechanized* Infantry battalion, a rifle squad is added; the scout section is reduced to 12 personnel; the tank section is equipped with two light tanks; and the support squad is equipped with the self-propelled, full-tracked carrier for the mortar.

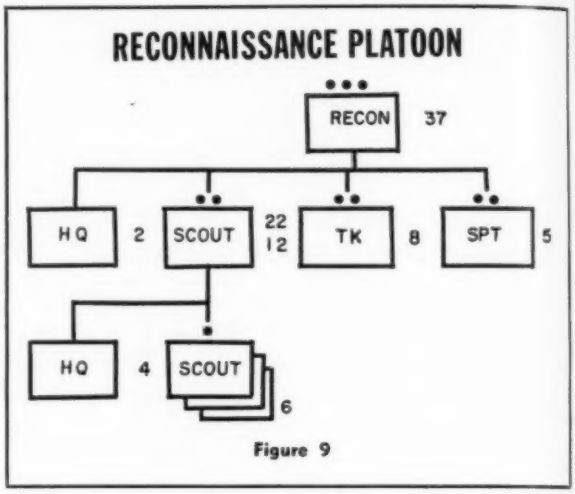


Figure 9

Antitank Platoon

The Antitank Platoon (Figure 10), which includes a platoon headquarters and three assault weapon squads, provides the battalion commander with his primary organic antitank defense means. One ENTAC launcher, mounted on a ¼-ton truck, is organic to each of the three squads. The platoon may be placed in general support, or squads may be attached to subordinate units of the battalion. Mutual support between the squads of the platoon is desirable; however, when the number of tank approaches which must be covered by the platoon does not permit mutual support, the squads may be employed singly.

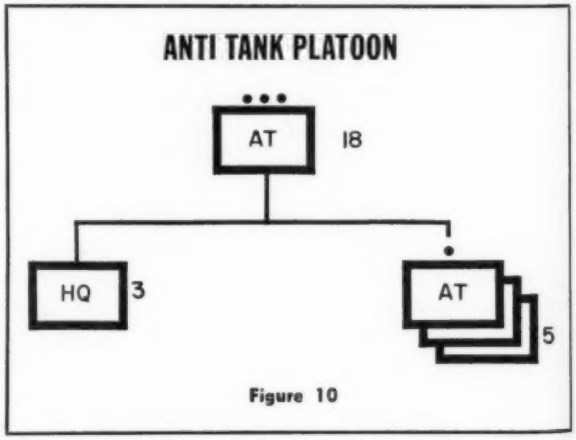


Figure 10

Communication Platoon

The Communication Platoon (Figure 11) assists the battalion commander by providing radio, wire, and message center service to control subordinate elements of the battalion effectively, as well as to maintain contact with higher and adjacent units. It is commanded by an Infantry lieutenant, located on the battalion staff, who operates under staff supervision of the battalion S3. The Air Control Team is assigned to the communication platoon. When the platoon is assigned to a *mechanized* Infantry battalion, it has nine fewer personnel (wiremen).

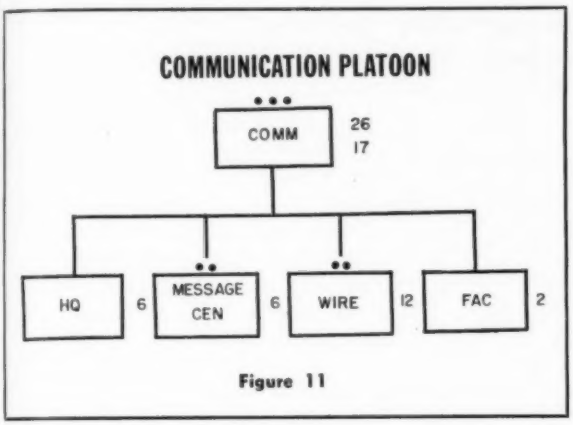


Figure 11

Medical Platoon

The Medical Platoon (Figure 12) provides medical treatment and evacuation for casualties. It is equipped with six front-line ambulances for evacuation from forward elements of the battalion to a battalion aid station. Here casualties are given emergency type treatment and either sent back to their units or prepared for further evacuation to division or army medical installations. When the platoon is assigned to a *mechanized* Infantry battalion, three of the six ambulances are exchanged for personnel carrier ambulances.

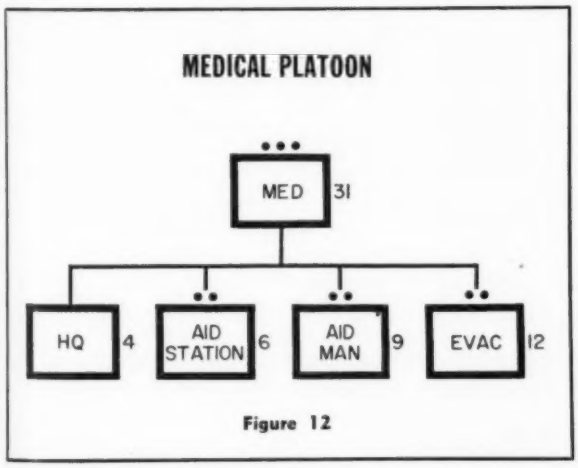


Figure 12

Support Platoon

The Support Platoon (Figure 13) provides the battalion with necessary logistical support. It is commanded by the Motor Officer (Assistant S4), an Infantry captain. He also commands the battalion field trains, the focal point for logistical operations within the battalion. He is assisted by one warrant officer for the Maintenance Section, one warrant officer for the Supply and Transportation Section, and the mess steward for the battalion Mess Section.

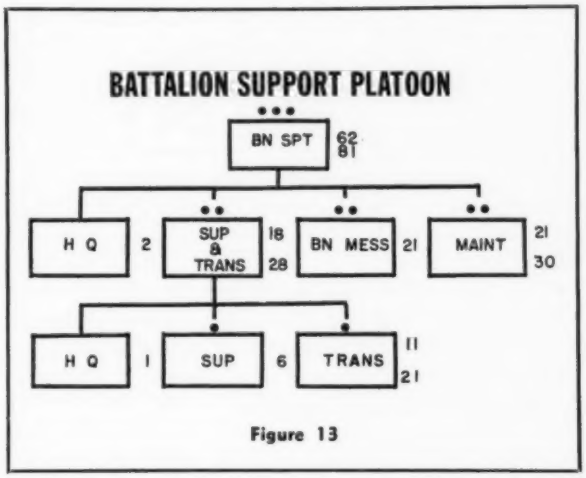


Figure 13

The Mess Section operates a centralized mess, but has the equipment and personnel to provide a kitchen to each company of the battalion when required.

When the Support Platoon is assigned to a *mechanized* Infantry battalion, the maintenance section and the supply and transportation section have increased personnel and equipment to provide additional logistical support required by tracked vehicles. The platoon operates under staff supervision of the S4.

Ground Surveillance Section

The Ground Surveillance Section is assigned to the company headquarters. It consists of a section sergeant and two medium range radar teams of four enlisted men each. The medium range radar, the AN/TPS-21, is a personnel and vehicle detector similar to the AN/PPS-4, but is larger and has greater range capabilities. It detects and locates moving targets within its line-of-sight range.

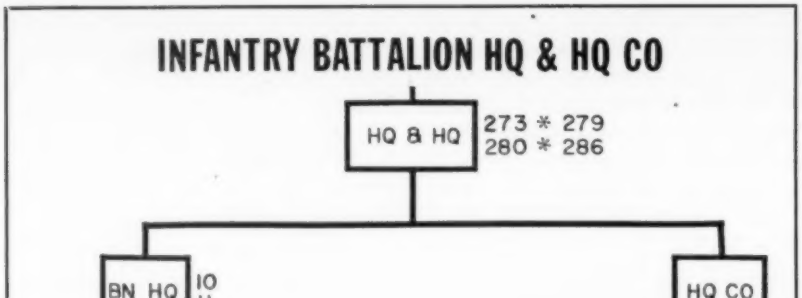


Figure 14

Battalion Headquarters

To command and control the three rifle companies effectively, there is the battalion headquarters as a part of Headquarters and Headquarters Company (Figure 14). The battalion is commanded by an Infantry lieutenant colonel, assisted by a major as executive officer, and a complete staff: captains S1, S2, and S4; and a major S3. In addition, headquarters includes the Surgeon, Communication Officer, Chemical Officer, *and when mechanized,* a Maintenance Officer. The only enlisted man is the battalion Sergeant Major. The headquarters company, commanded by an Infantry captain, provides administrative and logistical support for the subordinate elements of the company.

The Battalion Headquarters Section contains the commissioned and enlisted personnel who assist the battalion commander and his staff in the operation of the battalion command post. There is one captain as S3-Air, plus two lieutenants as Liaison Officers. This Section also contains the Operations Sergeant, the Intelligence Sergeant, and their assistants.

It should be noted that the Personnel Section has been removed from the battalion. The Adjutant General maintains the records of all assigned and attached personnel in the battalion at the division Administration Company.

The headquarters and headquarters company, and the three rifle companies make up the Infantry, airborne Infantry and mechanized Infantry battalions

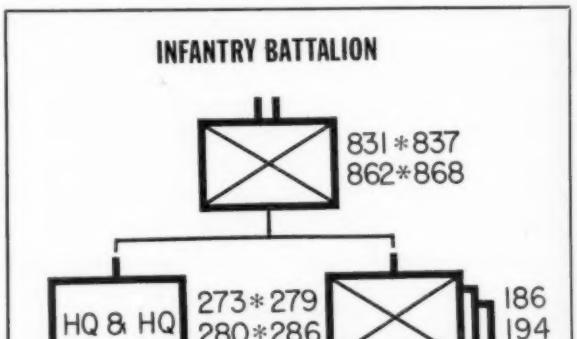


Figure 15

(Figure 15), the major portion of the basic maneuver element for the brigades.

(The November issue of Infantry *will complete its discussion of organization and equipment within the Infantry Division. If it is available by deadline, the first of a series on new tactical doctrine will also be included. Ed.)*

REDEYE

Capt **Donald G. Bearss, Inf**

NOT UNLIKE its namesake (a popular beverage served in the better saloons in the Old West), the "Redeye" will indeed be poison —for enemy aircraft. Actually, the weapon derives its nickname from the appearance of its "seeker head," peering from the business end of the launcher tube, supposedly resembling the bloodshot eyes of an over-indulging patron of saloons. But there the similarity ends, for it would be hard to find more clear-eyed vision than that of the Redeye.

Not many years ago combat units relied upon their ground support weapons and a few antiaircraft machineguns for air defense. These weapons served their purpose in that they were capable of effectively combating prop-driven aircraft. However, in the jet age these weapons pose little more than a psychological threat. Their inadequacy has been obscured, in most cases, by the fact that our ground commanders in World War II and the Korean conflict were usually operating under a protective umbrella of friendly air superiority. The fact that air defense artillery units were usually close at hand also served to de-emphasize the commander's concern for air defense matters.

Changes in tactical concepts to include an emphasis on employment of aircraft necessitated a review of our antiaircraft weapons systems. America's most likely potential opponents employ large numbers of high speed jet aircraft and slower moving VTOL aircraft for airmobile assaults, with nap-of-the-earth flying techniques for both. Further, this potential aggressor may have sufficient fighter-type aircraft to preclude at times friendly air superiority over some portions of the battle area.

To counteract this threat, our air defense artillery has emphasized missiles with target acquisition radar to protect the majority of the field army area. Owing to certain limitations of these missiles and their radar systems, however, there may be an area between the division rear boundary and the area in front of the enemy position that will not have an effective air defense weapon under our present capabilities. Awareness of this condition prompted development of a missile system designed to provide forward area combat troops with the capability of meeting with confidence enemy aircraft on a man-to-aircraft basis, with the Infantryman emerging the victor. This system is the Redeye.

Redeye is a portable, shoulder-fired, unitized weapon designed to destroy low-flying jets or conventionally powered planes. It is approximately four feet long, about three inches in diameter, weighs approximately twenty pounds, and is effective at altitudes and ranges commensurate with defense of forward area positions against strafing and bombing aircraft.

Configuration of the Redeye's launcher resembles that of the "Bazooka." It serves both as the launcher and as the shipping container for the missile. The missile itself is a composite structure containing a propellant, a high explosive warhead, and an electronic guidance system. For future employment of the weapon, it is likely that a two or three-man firing team, with transportation and communications, will be organic to each company, or a section of such teams, assigned to Infantry battalions, will operate in support of, or be attached to, the companies. In any event, the mission remains the same: to provide the combat companies and forward installations with an effective, low-level local air defense weapon.

Firing procedures for the Redeye are uncomplicated and rapid. After a quick "go-no go" check, the gunner simply aims the weapon in the direction of the target. The seeker locates and "locks on." After lock-on, the gunner triggers the weapon and the missile "homes" on the target. The heat energy generated by the aircraft provides the necessary homing guidance. After firing, the gunner discards the launcher. Where practical, follow-up units will police up the discarded launchers for reloading.

The Redeye, although currently not in the hands of troops, represents the first weapon of its type operable by forward area troops, and in this role has no comparable predecessor. As an addition to

the .50 cal machinegun, the Redeye has an estimated kill probability which represents an incalculable improvement in antiair effectiveness.

The morale of a combat unit is greatly dependent upon the confidence of the individual when faced by an enemy threat. For ground threats, this confidence has been imparted by the advent of the semiautomatic rifle, the recoilless rifle, the light antitank weapon and, recently, by the Davy Crockett. If the Redeye fulfills its potential, it will provide the same confidence in the face of an air attack.

(A couple of things occur to us wherein the readers may have invaluable ideas. Recognize that employment doctrine is subject to change when this weapon is in general usage.

It seems that a person who is engaged in reasonably close combat, whether offensive or defensive, will have mighty little time to see an airplane, sight his weapon, and squeeze the trigger. Maybe a couple of seconds. Can the Redeye operator be connected by radio, no matter how excellent, and wait for a decision from somebody back yonder whether or not to shoot? Time would appear to be against friendly forces and very much in favor of the enemy air element. On the other hand, if the operator is free to shoot at aircraft he elects, suppose he mis-identifies US aircraft? We could not tolerate such mistakes, of course. Perhaps somewhere in between lies the answer, but what is it? Who makes the "shoot-no shoot" decision?)

Strengthen The Link

Capt John H. Pate, Inf

INFANTRY FORUM

IT HAS often been stated that the company does not produce intelligence. Quite the opposite, the company commander can and does analyze, evaluate, and produce intelligence for the use of his company and its subordinate elements. True, this processing is largely mental and instinctive, but it does encompass the elements associated with the production of intelligence.

Combat intelligence has two objectives: to reduce to a minimum those uncertainties regarding the enemy, weather, and terrain so that the commander will be able to make decisions and direct his unit in the accomplishment of its mission; and to assist the commander in applying counterintelligence and security measures to conceal his unit's capabilities, intentions, and activities from the enemy while neutralizing or destroying the effectiveness of enemy intelligence activities.

For his intelligence to be valid, accurate, and timely, the commander must have at hand for his consideration as much information bearing on the subject as is available. This necessitates his having the personnel and the means of communication for receiving this information from the collecting agencies. It also necessitates some

form of recording the information in the absence of the commander. Once the commander has established his intelligence section and insured the transmission of items of information from his agencies, his role then parallels that of the battle group S2.

But each battle group has its own intelligence personnel to aid the S2 in the collection efforts. Three men in the battle group headquarters assist the S2 (a Major) in accomplishing the intelligence mission: a Captain, Assistant S2; an E8, Intelligence Sergeant; and an E7, Assistant Intelligence Sergeant. These people are charged with the responsibility of receiving, interpreting, and disseminating combat intelligence for the battle group.

The rifle company commander has a great many responsibilities in addition to that of combat intelligence. He must fight his company as a unit and see that the necessary ammunition, supplies, and equipment are available to the unit for each operation. He is, in short, responsible for everything which his unit does or fails to do. It is unfortunate, therefore, that there are no provisions made to give the rifle company commander expert assistance in gathering combat intelligence for the battle group, other than men assigned to his unit to fight.

I believe, therefore, that the TOE for each rifle company should include a school-trained intelligence specialist to assist the company commander in collecting and reporting enemy information that may be helpful in developing combat intelligence for the unit. I also believe that a trained intelligence specialist would be of assistance in setting up and supervising the counterintelligence plan. Too often, when information arrives at the CP, the company commander is not available to receive it, to make an evaluation at his level, and to forward the information to the battle group. By the use of a trained intelligence specialist in the rifle company, the battle group would be more assured of a consistent flow of combat intelligence from the riflemen, rifle platoons, and all other personnel assigned or attached to the rifle companies. A piece of information which appears to be of little or no importance, and which might have gone unreported by an overworked company commander, can often be of considerable value when added to information already available.

A great deal of combat intelligence is gained through patrols, including not only those sent out expressly for that purpose, but also those who acquire it incidentally in the course of other duties. The value of these patrols is greater if careful briefings and debriefings take place before and after their missions. During the patrols, careful observation and recording of important information should take place. Proper debriefings and reports should occur as soon after the patrols return as possible. Many times it is impossible for the S2 to debrief all patrols from his battle group. Sometimes the company commander does not have adequate time to properly debrief all patrols. An intelligence specialist could be used for debriefing patrols when it is impossible for the S2 to do so, could assist the company commander in the debriefing, or could conduct the debriefing himself when necessary.

Soldiers in the units afford the lower-echelon intelligence officer his most direct and basic means of collecting information. Although their primary mission is to close with and destroy the enemy, they retain responsibility for obtaining and reporting information. The amount of information and the form in which it is reported are determined by the unit's organization, mission, communications, equipment, and training. Proper intelligence training of the individual is paramount to the effectiveness of his contribution as a collection agency, for without training, he will report essential information spasmodically, if at all. With the addition of an intelligence specialist in each rifle company, the capabilities of the company to collect, evaluate, and forward intelligence information to the battle group S2 would be greatly increased.

Air reconnaissance also plays a major role in collecting intelligence during training and operations. A trained intelligence specialist could be used as an observer in air reconnaissance missions that were flown primarily for the benefit of *his* rifle company. This specialist, knowing the tactical situation and considerations of his company, would be more beneficial to the unit commander than would an aerial observer picked at random to fly the mission.

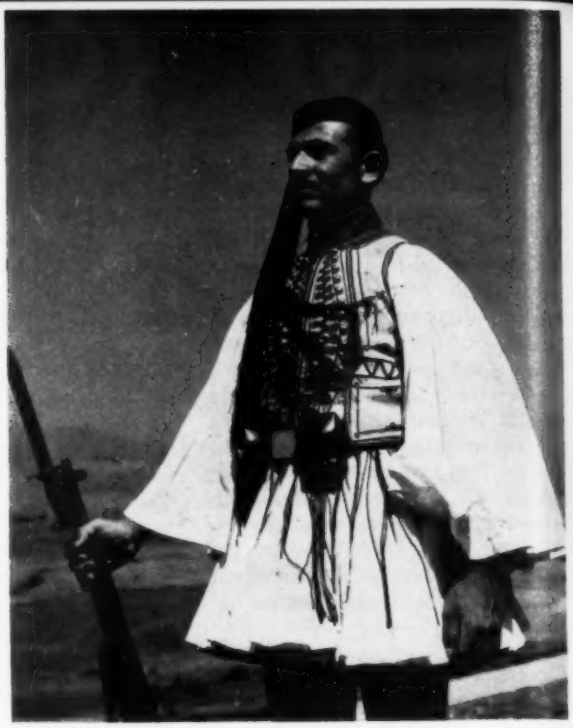
Combat intelligence training is not currently realistic enough to be effective. Since intelligence is not as tangible as an objective occupied by the Aggressor, it is often neglected in training exercises. Having a specialist at company level would help the company commander during training in overcoming this lack of attention to intelligence.

Lieutenant General Manton S. Eddy once said, "As a commander, know the value of accurate intelligence, the methods by which it is produced, the manner in which it is used—and then insist on getting adequate service. As an intelligence officer, dispose of your crystal ball, know the tactical requirements for information, and then *provide your commander with the military support he should expect . . . .*" (Emphasis added.) The addition of an intelligence specialist to the rifle company would be a step toward giving the commander the support needed to carry out his intelligence mission, and would strengthen a dangerously weak link in the chain of combat intelligence.

A question occurs to us. How does the specialist report his data to higher headquarters? The command net is a poor choice, because it is already overloaded. But can we afford a new intelligence net which more or less overlaps the command net? Editor.

The opinions expressed in this article are those of the author and do not necessarily reflect thinking of the United States Army Infantry School.

THE GREEK ARMY



Official NATO-South Photos

IN THE EARLY stages of World War II, then-Prime Minister of Great Britain, Sir Winston Churchill, remarked, "until now we believed that the Greeks fought like heroes. Hereon we shall believe that heroes fight like Greeks."

These few words by Sir Winston aptly describe the qualities of the Greek fighting man. The Hellenic armies for centuries have enjoyed a reputation for great endurance and the highest respect of military leaders throughout the world.

Today, the soldiers of the Greek Army form a part of NATO's Allied Forces Southern Europe (AFSOUTH), the "right flank" of the Alliance created to halt the tide of communist expansion in Europe.

To oppose this menace and to protect her sovereignty and that of her NATO allies, Greece has an Army of 11 divisions. Her soldiers are well-trained, disciplined, equipped with modern Infantry weapons and are now backed up with the added punch of rocket battalions.

The land frontier of Greece is roughly 780 miles in length, with about two-thirds adjacent to the communist-dominated countries of Albania (166 miles) and Bulgaria (320 miles). The latter is not only one of the staunchest Soviet bloc countries but is also one of the

A 24-hour patrol is maintained along the Greek-Bulgarian border.

Soldiers at the Raider Forces Training Center must be in top physical condition.

Infantry is now backed up by the added punch of the Honest John rocket.

The colorful uniform of an Evzoni soldier draws the attention and interest of fellow NATO personnel at Allied Forces Headquarters.

most powerful in a military sense. This fact alone makes it imperative for Greece to maintain a strong, standing army for defense.

The life of an Infantryman serving in the rugged, mountainous border country opposite Bulgaria is not a soft one. Often he can reach his outpost only by traveling over narrow footpaths worn into sides of lofty peaks. His supplies, including water, must be brought in by pack mules. In winter when heavy snows blanket the mountains, traversing the hidden trails is accomplished more by a keen memory than by sight.

Although the men serving in this border area are rugged mountain fighters, their officers believe in an all-around training program. To facilitate proper training in the wide range of tactics which could be employed in battle, battalions are rotated to rear areas at regular intervals for refresher courses and to learn new skills for combat. This may involve amphibious operations, survival know-how in event of atomic attack, demolition schemes, and guerrilla warfare.

Typical of Greek Army tradition are the high-spirited Evzoni guards. These colorful soldiers, dressed in their historical tasseled shoes, short skirts, and red capped uniforms, serve at the Greek-Yugoslav border. Only a handful of selected men wear this symbolic outfit. One group is stationed at the border; the other at the Royal Palace in Athens.

The name "Evzoni" originally meant light Infantry, and was derived from the descriptive term for soldiers of this type from centuries ago. Now the Evzoni have melded into the modern Greek forces except at these two posts, all other posts being manned by men selected from regular regiments who otherwise wear modern uniforms and use modern equipment. The men serving at the Yugoslavian border post near the village of Evzoni rotate with others from their regular regiment.

The Greek Army is a classic example of determination in being—it presents a formidable barrier to any would-be oppressor. Modern equipment combined with the qualities of the Hellenic soldier is what makes NATO's "southern flank" the deterrent force it is today.

Evzoni troops first became regular units of the Hellenic Army in 1823.

For Those Who Dare

Lt Gen Reuben E. Jenkins (Ret)

Following are excerpts from one of the most stirring talks Fort Benning has heard. It was presented to the Career Courses last May, too late for our July issue, by Lt General Reuben E. Jenkins, US Army, Retired, who now resides in Columbus, Ga. Our only regret is that the printed word is utterly incapable of portraying the emotion and impact with which the talk was both given and received. It is, nevertheless, worth attentive reading by every Infantryman the world over. Editor.

"...I do want to emphasize this. Regardless of whether the Free World becomes embroiled in an all-out nuclear war, an all-out non-nuclear war, or any series of limited wars, —the fundamental instrument—the Infantryman, —rifle in hand, with a sticker on the end of it—will be the ultimate deciding factor. He will settle the final dispute in every battle and in every war, and don't let anybody tell you different; because it is your task to lead him!... And I think it's good for our wives and some of our civilian friends to hear this too; because they all too often look upon it as something for the birds or something strictly romantic—and learn the bitter truth all too late.

Our wives and civilian friends often look upon our role as Infantry officers as a trainer of troops and as an administrator of our command, and perhaps by some twist of fate we might ultimately have to lead troops into battle. But those are mere facets of our fundamental role. The fundamental role of the Infantry officer is to succeed where our diplomats and our statesmen fail—to impose the will of the people, by force of arms if necessary, upon those who challenge us—and [if] our statesmen and our diplomats fail to settle our differences by peaceful means. That is the objective of everything we do in the Infantry in peace and war; and that is the sole objective of every one of the supporting arms that back us up.... That is the sole justification for the existence of Armed Forces and for an Officer Corps to whom the people must look for leadership in war.

The Infantryman's task is filled with tremendous personal and professional hazards, and his ultimate task is without equal in any other field. Our civilian-friend leaders can invariably, when the going gets even the roughest, call their signals in a relatively pleasant and peaceful environment. The quarterback calls his to the roar of the grandstands; the engineer to the roar of machinery; the business tycoon to the roar of approving stock holders; but not we. When the chips are down, we call ours to the roar of guns, the rumble of tanks, the crash of bombs, the howl of jets, the chatter of automatic weapons, the whine of metal unseen flying through the air, the screams of the terrified, the moans of the wounded, and the stench of the dead! The cold hand of fear builds an icicle in the pit of our belly—it panics the weak, and it challenges the strong—and only those with tremendous personal and professional pride, the high sense of duty and great moral and physical courage withstand its terrible impact.

But withstand it the Infantry officer must; and he does, because he is the close combat leader of his people and his nation, and upon his decisions and actions in the crisis may well depend their future—even the future course of history.

This is not a rosy picture of an Infantry officer's career, because there is nothing rosy about it. It requires a dedication of the highest order, a complete willingness to sacrifice self, and a grim determination unequaled. It is indeed a difficult life from beginning to end, and why? Let us really get down into the dirt and review here together for the last time, perhaps, some of the basic fundamentals that we must master and what those things involve.

First, we must know how to deal effectively with every principal subordinate in our command, and many times with those who are subordinate to them. And human nature and human beings being what they are, that is indeed a difficult task.

We must know how to employ efficiently every piece of equipment in our command regardless of its complexity, and we must know how to mold all these different personalities and all of this equipment into an instrument of destruction capable of accomplishing any mission assigned us.

Lastly, we must be possessed of the personal habits and traits of character that will sell us as leaders to our subordinates. And by subordinates I don't just mean the enlisted man. I mean every commissioned, warranted and enlisted person under the commander. Because if we are to be their leader, we must have the complete trust and confidence of all of them.

I believe it was Napoleon, quoting St. Paul, who said, 'If the trumpet sounds an uncertain note, who will answer the call to battle?' We, the Infantry, we are the trumpet which must be answered, not only by all of our subordinates, but by all of our supporting arms and services, including the Navy and Air Force, and to them we must be 'the way, and the truth, and the life.' Having mastered these basic fundamentals, the rest is up to us.

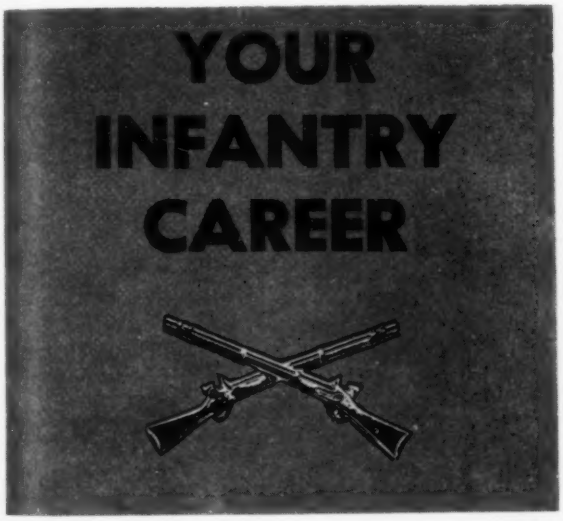
Those with experience know that when the chips are down, unfortunately, human beings fall into three general groups: Those who dare take the calculated risk and make things happen; those who participate only intelligently in things that happen and play it completely safe; and those few, yet all too many, who apparently neither understand what is happening nor have the courage or the initiative to find out.

Now, from which of these three groups are Infantrymen selected for higher command and greater responsibilities? The choice is ours. And in all of this, there is one task that remains constant with us. We devote our undivided attention to the care and welfare of our subordinates at every level of command; and we stay out of the way of our superiors,

because there is never any justification for an Infantryman to boot-lick his superior. To our superiors we owe nothing except our courtesy, our undivided loyalty, our strict obedience, and our thanks for every opportunity they offer us. But to our subordinates we owe everything that we are or hope to be. Believe me, I know. For it is our subordinates, not our superiors, who raise us to the dizziest of professional heights; and it is our subordinates who can and will, if we deserve it, bury us in the deepest mire of disgrace. For theirs is the kingdom we rule, theirs is the power we wield, and theirs is every bit of glory that may come to us personally. And believe you me, they know it, and so does every Infantry officer worth his salt!

When the chips are down and our subordinates have accepted us as their leader, we don't need any superior to tell us; we see it in their eyes and in their faces, in the barracks, on the field, and on the battle line. And on that fatal day when we must be ruthlessly demanding, cruel and heartless, they will rise as one man to do our bidding, knowing full well that it may be their last act in this life. If that is the type of leadership response that has a hypnotic appeal to you, then you are an Infantryman. For it is the type of leadership response that justifies our dedication, our willingness to sacrifice self, and our loyalty to our career. It is the only type of response that insures the future of the Free World.

That is the Infantryman's reward. And when the commander at any level experiences it on the battle area, he fears neither God, man nor the Devil. Because he knows that God is on his side, and men and the Devil don't count. He knows that he stands 20 feet tall. And you can call it egotism or anything else you like, but he beats himself on the chest with secret pride, and he mutters to himself, 'I am the master of my fate; I am the captain of my soul.'"



This department provides important information on policies and personnel actions which affect your Infantry career. Material for Active Army officers in furnished by Infantry Officers Division, OAD, DCSPER, DA. Information for USAR officers and enlisted Infantrymen is obtained from other Department of the Army agencies.

DETAIL IN INFANTRY FOR NEWLY COMMISSIONED RA LIEUTENANTS

"In order to provide for the training essential to a well-rounded military career, all lieutenants newly commissioned in the Regular Army and assigned to certain branches will be detailed in one of the combat arms to afford them the opportunity of familiarizing themselves firsthand with the combat soldier's needs and requirements." (AR 614-100)

There are approximately 500 RA officers whose basic branch is Adjutant General's Corps, Chemical Corps, Quartermaster Corps, Finance Corps, Ordnance Corps, Military Police Corps and Transportation Corps, and who are now serving a two-year detail in Infantry. The following questions are frequently asked concerning this detail in Infantry:

QUESTION: What is the length of this detail?

ANSWER: Two years for all lieutenants without prior commissioned service in a combat arm; lieutenants with prior commissioned service in a combat arm will be credited with this service on a monthly basis up to one year; the minimum period of a combat arm detail is one year.

QUESTION: What training will I receive to prepare me for this detail?

ANSWER: You will attend the Infantry Officer Orientation Course at the Infantry School, Fort Benning, Georgia, TDY en route to your troop assignment. While at Fort Benning you may volunteer for Airborne or Ranger training, or both if you so desire.

QUESTION: What type of assignment can I expect?

ANSWER: If you are detailed for more than one year, you will be assigned to a tactical unit, during which time at least twelve months will be spent in a rifle company. Officers detailed for a one-year period will spend at least six months in a rifle company. Subsequent primary duty assignments during the detail period will be directly related to Infantry duties.

QUESTION: Will this detail be performed in CONUS or overseas?

ANSWER: It can be performed in either location, depending on requirements overseas at the time and your overseas eligibility.

QUESTION: Who monitors my assignments and manner of performance during my Infantry detail?

ANSWER: Infantry Officers Division, Officers Assignment Directorate, DCSPER, will monitor your records during your detail in Infantry.

QUESTION: What will be my assignment upon completion of my Infantry detail?

ANSWER: Your basic branch will determine all assignments subsequent to completion of your Infantry detail. It is possible you will attend a course of instruction at your branch school en route to your new duty station. If a suitable requirement exists at the station where you are serving your Infantry detail, either in CONUS or overseas, for an officer of your grade and basic branch, you may be reassigned to duty with your basic branch at your present station.

QUESTION: Can an officer transfer to Infantry upon completion of the Infantry detail?

ANSWER: An officer with no prior commissioned service in his basic branch cannot transfer branches until he has completed two years of duty in his basic branch. Prior service in the branch may be credited toward the required two-year duty necessary before a branch transfer can be effected. (AR 615-400, para 15a(1))

PREPARATION FOR ATTENDANCE AT THE COMMAND AND GENERAL STAFF COLLEGE

The Department of Non-Resident Instruction at the Command and General Staff College offers a "Special Extension Course—Preparatory" to future resident students. This extension work is a preparatory, self-instruction course for officers anticipating attendance at either the Regular or the Associate course. The basic terms, procedures, concepts and organizations used in resident instructions are emphasized. Among the specific subjects included are an Introduction to the Theater of Operations, Nuclear Weapons, the Infantry Division, and the General Staff Procedures.

The list of officers to attend the Regular Course is announced world-wide, normally in late December of each year. Officers selected to attend Associate Course are notified by the Department of the Army at least three months prior to the starting date of the course.

Officers may enroll in the "Special Extension Course—Preparatory" by writing directly to the College, Fort Leavenworth, Kansas, ATTN: Department of Non-resident Instruction.

AVIATION TRAINING

Applicants for Army Aviation Flight Training can assist the Department of the Army in handling their applications by adhering to the procedures outlined in AR 611-110.

When applying, some things to remember are:

- If serving overseas, you should apply at least six months prior to your return to CONUS.
- Submit your application through channels addressed to The Adjutant General, Department of the Army, Washington 25, D. C. ATTN: DCSPER-INF.
- If you are *not* serving on active duty in an indefinite category, submit a request for extended duty with the application for aviation training (see AR 135-215).
- Strict compliance with AR 40-110 in completing Standard Forms 88 and 89 will assist in determining your physical status for flight training. In this connection, you should tell the Flight Surgeon about any previous illness or injury. The Flight Surgeon must inclose a detailed report of consultation to include a history, examination and evaluation of these items.

VISITS TO WASHINGTON

If you are planning a visit to the Washington area you should, if time permits, plan to visit your career Branch. Such a visit will enable you to review your branch file and, if you wish, your official 201 file that is maintained by The Adjutant General. If you wish to see your official 201 file, you should notify Infantry Officers Division at least 24 hours in advance so that an appointment may be made for you. The Infantry Officers Division reception office is in Room 1 E 543 of the Pentagon. If you wish to telephone for an appointment to see your official file, the number is OXford 52196 on the Washington exchange. No appointment is required to see your Branch file (DA Form 66 and Efficiency Reports), or to talk with one of the career management officers. You are always welcome at your career Branch.

INFANTRY OFFICERS DIVISION

In the interest of keeping you up to date on who is managing your career, following is the personnel line-up in the Infantry Officers Division:

Chief:	Brig Gen H. J. Jablonsky
Asst. Chief:	Lt Col B. M. Read
Admin. Asst:	Capt D. F. Hockett
Colonel Asgmt:	Lt Col C. L. Crain
	Lt Col S. B. Berry, Jr.
Asgmt Branch:	Lt Col J. H. Spears
	Lt Col B. H. Fraser
	Lt Col H. E. Lefebvre
	Lt Col R. D. Barrett
	Major J. E. Townes, Jr.
	Major J. D. Hynes
	Major R. M. Reese
	Major H. T. Long
	Major J. C. McDonough
Education Branch:	Lt Col J. S. Mace
	Lt Col R. L. Kerr
	Major R. K. Cunningham
	Major D. R. Presson
	Major A. L. Sanderson
Personnel Actions Branch:	Lt Col F. E. Burgher
	Lt Col R. E. Odom
	Lt Col L. J. Schelter, Jr.
	Lt Col G. A. Walters
	Major W. W. Brooks, Jr.
	Major J. M. Vail

RAID SPACE AGE STYLE

Capt Russell J. Folta, Inf

Sporadic artillery fire muffled the sound of a small aircraft high overhead. Deepening twilight concealed the tiny speck from all hostile eyes but one—the big, ever-searching eye of Aggressor radar.

A busy operator duly noted and reported this barely discernible new intruder on his screen. However, he was more concerned with larger and brighter contacts. There were many. He and his colleagues plotted them all, complete with speeds, courses, altitudes. They missed nothing—they thought.

Their bright screen did not show them the smallest and slowest blip suddenly give violent birth to five even smaller specks. They would have been justly amazed. They continued to wonder at the purpose behind so many aircraft flying such apparently random courses. They were no wiser when the last of the contacts eventually disappeared in the direction from which it had come.

Silently the five specks plummeted thousands of feet through darkening space. Five parachutes suddenly blossomed. Moments later, five men landed undetected at a predetermined spot a short distance behind enemy lines. Hours afterward, a nearby Aggressor supply dump was in flames and almost totally destroyed. Before the Aggressors could react, the raiders had disappeared. At first light they were picked up at a rendezvous point and returned to friendly lines by helicopter.

The unique way in which this raiding party was delivered played an important part in making its mission the success it was. That method, "sky diving," had its beginning in the fall of 1959, when a small group of military sports parachutists at Fort Campbell demonstrated the feasibility of this method during an ATT by actually executing a raid somewhat similar to that described above.

Sky-diving techniques differ from normal military parachuting in three basic ways. First, the jumper leaves the aircraft at a much higher altitude (5,000-12,000 feet). Maintaining complete control of his body in space, he free-falls until he reaches the desired altitude for opening his parachute. During this time he can alter his path (track) over the ground as much as several hundred meters in any direction, depending upon the altitude from which he jumped and the wind direction and speed. He controls his track by varying his body position slightly, much as a glider pilot would change his track by readjusting the control surfaces of his aircraft. There the analogy ends, however, for the sky-diver has a rate-of-descent problem unknown to the glider pilot. In this respect, he could more accurately be compared to a rock, in that he normally falls at a rate of between 120 and 180 miles per hour.

Secondly, the sky-diver activates his own parachute by means of a rip-cord. The disadvantages of a static line several thousand feet in length should be fairly obvious. A stop watch and altimeter attached to his reserve chest-pack indicates to him when he has reached opening altitude.

A third major difference is in the type of parachute used. When open, it normally looks as if the manufacturer never quite completed it. One or more large holes in the rear extend from the bottom (skirt) almost to the top (apex). This, with other less obvious modifications, will give the jumper a "built-in" forward speed, and allow him to turn 360 degrees in a few seconds merely by pulling on one of two control knobs overhead. A jumper is thus able to control his descent with extreme accuracy.

In normal parachute delivery, the aircraft must fly quite low over the drop area—just high enough to be tracked by radar, yet low enough to be subject to ground fire. More important, the aircraft are easily spotted by Aggressor troops in the area. Further, parachutists require both a larger landing area and the time to regroup, since they have little control over their drift during descent. To counteract these limitations using a normal parachute drop, an area well away from Aggressor troops would have to be used.

With the use of air-landing techniques, on the other hand, the noise of helicopters would sacrifice surprise and, even if the aircraft were not detected on Aggressor radar, Aggressor troops throughout the area would be alerted for a landing somewhere in their vicinity.

Thus, in situations such as the one described, there are advantages to be gained by using a small team of men trained in Ranger and sky-diving techniques. The use of such a team requires only a few simple modifications of the raid plan. A small area near the objective, discernible from high in the air in almost complete darkness, is necessary. Surface winds and winds aloft must be calculated so that jumpers can plan their point of exit from the aircraft. Flight altitudes and paths must be planned for both the drop aircraft and the Air Force planes which lend protection and help confuse radar.

The remaining characteristics—use of darkness to advantage, coordination of artillery fires, and removal of the team by helicopter—are desirable in any small patrol operation, no matter what its delivery means.

Development and use of these techniques will allow a commander new flexibility in delivering special-mission reconnaissance, or combat patrols into selected parts of the battle area. In this era when a commander finds himself required to do more and more with less and less, he should take advantage of every new technique which can help him to influence and dominate the battlefield.

A Neglected Art

Capt Robert L. Wheaton, Inf

WHEN, IN HIS novel, *The Gun*, C. S. Forester described the movement of the siege cannon across Spain, he was telling his readers about a recovery operation. Yet, despite its importance, vehicle and equipment recovery is something we tend to leave to the recovery crew and dismiss from further consideration. Because of this attitude, there have been occasions in past conflicts in which there were more vehicles inoperable than operable only because there was inadequate provision for recovery. Even today, we in the Infantry, lacking a good recovery plan, tend to abandon stranded vehicles in a fast-moving situation, reporting their location in the forlorn hope that they will be recovered by somebody else and returned to us. In view of our increasing dependence upon mechanization, we can no longer afford such a luxury.

But what do I mean by military vehicle recovery? Let us say that over-all recovery consists of preventive action, actual physical recovery, and follow-up.

Preventive action is the aspect of recovery that is most heavily emphasized. Specifically, equipment must be maintained in the best mechanical condition possible. To assist in maintenance, all OEM (On Equipment Materiel) should be kept on the vehicle. Also important is the driver. A trained and proficient operator should be placed on the vehicle, a driver who not only knows how to get where he is going, but how to get back. He should be particularly alert to mud, quicksand, or other areas of doubtful surface characteristics. He should even go so far as to precede the vehicle on foot if necessary to test the area's trafficability.

Physical recovery is the act of actually extracting the vehicle when the preventive stage is unsuccessful. This topic will be discussed in greater detail later.

Follow-up is the action taken to repair a vehicle damaged before, during, or after physical recovery. This repair may be accomplished on the spot with organic spare parts or by "cannibalizing" other vehicles, or in a shop specifically organized to effect repair at the echelon required. There are many ways to accomplish follow-up, most of which are governed by unit SOP. Some units prohibit cannibalizing, while some allow it. Other units merely insist on *the* most important thing: keep as many vehicles going for as long as possible.

There are many, many simple tools and pieces of equipment for the accomplishment of recovery tasks. Vehicles are supplied with OEM, much of which is useful for recovery. For tracked vehicles we have tow cables, tank bars, and hand tools. Wheeled vehicles are issued with jacks and tire chains. Pioneer tools are common to both types of vehicles, and some vehicles are equipped with the snatch-block. Expedient tools may consist of logs, rocks, or earth. Trees may be used for anchors, and branches may be used to increase flotation and traction. Logs may be fashioned into corduroy mats, and poles into A-frames.

A somewhat nebulous "tool," mechanical advantage, is really the basis of recovery capabilities. It may be described as the application of a small mechanical force through a contrivance or contrivances to produce a large mechanical force. Mechanical advantage may be provided by tools, motors, or block and tackle. A block is the most used and least understood means of achieving mechanical advantage. It is nothing more than a closed, grooved pulley (sheave) mounted on a central pin with hook attached. Simply stated, mechanical advantage depends upon the number of ropes or cables supporting the load. That is why a properly rigged ¼-ton truck can pull a 2½-ton truck out of a mudhole.

Formal recovery equipment is the means specifically designed for vehicle recovery. In the past, the two mainstays were the M1A1 10-ton wrecker and the old M32 (later M74) VTR. Today, the Army is using the M62 5-ton wrecker, the M74 VTR, and more recently the M88 tank recovery vehicle.

The 5-ton wrecker is the medium vehicle for wheeled recovery. It is equipped with 45,000-pound and

An M62 5-ton wrecker recovering a ¾-ton truck.

The M88 Tank Recovery Vehicle can handle most recovery jobs involving the M48 and M60 tanks.

20,000-pound winches, and has a movable boom of 10,000-pound maximum lifting capacity. It is equipped with jacks for stationary heavy lift, particularly when the load is to be lifted broadside. These jacks stabilize the lifting platform and share the strain with the vehicle suspension system. This wrecker is also equipped with snatchblocks, a tow chain, and a tow bar. It can recover up to a loaded 5-ton vehicle—a rather limited capability.

The M74 is a modified M4 tank with a .50 cal MG, a .30 cal MG, and an 81mm mortar for armament. Recovery equipment consists of one winch of 60,000-pound straight pull capacity, a mechanical boom of 30,000-pound maximum lift, tow cables of 60,000-pound capacity, and single sheave snatchblocks and stabilizer plates for lifted loads exceeding 5,000 pounds. This vehicle was originally designed to lift one end of a tank or to tow the medium M4 tank. With the advent of the M47, M48, and M60 series, the M74 has become inadequate with respect to engine power and lifting capacity. The M74 is also slow and noisy, and has an obsolete volute spring suspension which is difficult to repair.

The M88 is the answer to many of our recovery vehicle problems. The most important characteristics of the "ideal" recovery vehicle are more nearly met by the M88 than by any other vehicle to date. An ideal recovery vehicle would have armor protection, high horsepower, wide tracks, working space in its hull, a powerful winch, a hydraulic A-frame, and yet the minimum weight commensurate with these features.

The M88 has twice the range of its predecessor, the M74. It is powered by an improved 1000 HP fuel-injection engine, and has a boom of 50,000-pound capacity. The main winch has a straight line pull of 90,000 pounds (one and one-half times that of the M74), and the hoist will lift 35,000 pounds of dead weight. Operationally, this vehicle can handle the M48 and M60 series of tanks, and has 50% more interior working area.

THESE ARE THE tools we have to work with. Let's look at a few situations which might illustrate their use. For example, assume that a tank is mired to its drive sprockets in a muddy ditch. An inspection of the situation reveals that straight pulling is the simplest solution. First, if appropriate, the area is drained by ditching. Then, either the front or rear of the tank is dug out, depending on which way it is to be extracted. The job requires two tanks of at least the same size as the mired vehicle, adequate tank recovery vehicles, or a combination of the two in tandem. Attach two cables, or a cable and snatchblock, from one recovery vehicle to the mired vehicle; then use one cable to link the recovery vehicles together. With the 3:1 mechanical advantage thus gained, you may now extract the mired vehicle in low gear or reverse. Under the direction of a recovery chief, power must be carefully applied to the mired tank, even when there is some footing, or the recovery vehicles could become mired themselves. Uneven application of power might snap a cable or cause a thrown track on the recovery vehicle. The lashback of parted cable under stress is extremely dangerous to anyone within range.

If recovery vehicles and other help are not available, expedient recovery must be accomplished. This may involve extensive ditching. Otherwise, each track must be dug out partially, and branches, rocks or other material drawn under the tracks until there is sufficient flotation to move. This could take hours.

A critical problem is that of an overturned tank, and it requires no fewer than two tanks or tank retrievers to effect recovery. Two recovery vehicles must be placed

Soldiers act as a counterforce while a truck uses its winch to right an overturned vehicle.

The A-frame aids in recovering a wheeled vehicle mired in a ditch.

head-on to the two sides of the overturned tank respectively. Two cables from the front of each recovery vehicle are attached to one side set of lifting shackles on the overturned tank. Then, with one vehicle pulling and the other taking up slack, the overturned tank can be set upright. This operation requires close cooperation of and control by a skilled recovery chief and crew.

A common occurrence at night, even with a ground guide, is a tank or truck nosed into a ditch. When there is not sufficient flotation and traction to allow it to back out unaided, the solution is to lift the nosed end with the appropriate recovery vehicle until the stranded vehicle is level with the ground. The vehicle may then be backed out under its own power in most instances. The boom operator must control his cable so that the stranded vehicle remains level until a firm footing is reached.

A bellied tank is also a common occurrence, and may be remedied as would a mired tank if the equipment is available. If no equipment is available, a stout log, approximately eight inches in diameter, and two chains or cables are necessary. The log should be chained to the track in front and the tank driven over the log as far as the drive sprocket. Then, the log should be unchained and the process repeated as necessary until the tank is on good footing.

The techniques described so far apply, with slight modifications, almost equally well to tracked and wheeled vehicles. With wheeled vehicles, however, there are a few conditions not encountered with tracked vehicles. First of all, if one wheel on an axle spins, the axle becomes useless for the production of further vehicular motion. If the vehicle is bellied, a simple pole lever may be sufficient to permit lifting one or two wheels, filling the holes or ruts, and driving out. If not, a short log can be chained to each partially deflated front or rear wheel (through the pierced hub) and the vehicle can drive out.

If one end of a wheeled vehicle is in a ditch, an A-frame may be used to move the vehicle. An A-frame is constructed by chaining two logs together to form an "A" (actually an inverted "V") and then running another chain over the top of the "A," hooking it to the front lifting hooks or shackles of the vehicle. Assuming the front is nose down, place the A-frame in front, legs closest to the vehicle and then back up the vehicle. The frame will pivot on its "feet" and lift the vehicle out of the hole.

If an axle is broken, there are two ways to effect recovery. If the vehicle is of less than 2½-ton capacity, a notched log may be driven between the frame and the body, and the vehicle can be driven on three wheels and the log over fair terrain to a shop. If the vehicle is of 2½-ton capacity or more, back it over a small rock or mound so that the broken axle is pushed up to its bumper. The offending axle may then be chained to the frame and the vehicle driven to a shop without further damage.

FROM ALL THESE situations, a pattern emerges. It involves, among other things, a recognition of the need for and possibilities of vehicle recovery, and an understanding of the equipment and techniques available. As we become more dependent upon mechanized mobility, yet find vehicles still in short supply, it behooves us us to gain the maximum use from the vehicles we have. Perhaps the "neglected art" of vehicle recovery will enable us to do just that.

Mobile Task Forces

RECENTLY there has been an increase in interest by students at USAIS in the composition and functions of mobile task forces. Because this may be an accurate sampling of Infantry-wide interest, and because Infantry fighting may come more and more to this type of operation, it is well that the subject be reviewed.

A task force is defined as a temporary grouping of units whose exact composition is specifically designed under a single commander to best accomplish a specific mission. A *mobile* task force is, of course, a task force which rides to work; ergo, it has mobility.

Regardless of their size, mobile task forces incorporate six elements: a maneuver element, a direct fire element, an indirect fire element, a control element, a reconnaissance element, and a logistical element. The strength of each element will vary with the mission, enemy situation, terrain, and, of course, troops available to the commander. Within those mandates, the fundamental precept in designing a task force is to encompass only those units and agencies which are necessary to accomplish the given mission, and to leave the "nice to have" units elsewhere. Anything or anybody who adds weight, supply requirements, sluggish movement, or other unattractive encumbrances usually becomes a liability rather than an advantage to the commander.

The types of missions suited to task forces are virtually limitless, but they can be categorized from previous experience. The reader will notice that they are primarily aggressive-action missions rather than defensive in nature. For example, these are suitable missions: seizing key terrain, exploiting a penetration, delaying as a covering force, conducting a raid, or making a reconnaissance in force.

The tactics of a mobile task force differ little from the tactics of any reinforced Infantry unit. However, two facets do receive additional emphasis. First, the execution phase is characterized by an aggressive drive into the objective area, avoiding decisive combat along the way *if possible*. If tanks precede the column, aggressive reconnaissance by fire is used. The overall requirements for speed, aggressiveness, and independent action will have a material bearing on the choice of both the commander and the units for a task force.

Second, since the task force may operate for a considerable time on its own, physically removed from customary support of all sorts, more aggressive attention must be given to the logistical needs of the force. Based on the anticipated duration of the mission, plans must be made for aerial resupply and evacuation of casualties. A case in point is gasoline, a problem not ordinarily critical to most rifle company commanders.

To discuss in more detail a typical composition of a task force, assume that a battle group has a relatively short-range mission to seize a specific terrain feature. Generally, the battle group will use one or two mechanized rifle companies as the nucleus for the task forces. If more than one rifle company is used, the battle group DCO usually commands the force. If only one rifle company is used, then its commander will probably command the force. In the example we are using, the following might be satisfactory increments:

- 1 Rifle Company
- 1 Tank Platoon
- 1 Heavy Mortar Platoon
- 1 Engineer Platoon
- 1 Reconnaissance Helicopter
- 1 Short-range Radar Team
- 1 Assault Weapon Squad
- 1 Platoon of APCs plus another squad (assuming 25 out of 28 carriers are available for use.)

The APCs listed above will mechanize the entire force, divided as follows:

- Rifle Company (w/radar team) 14
- Engineer Platoon 4
- Task Force CO 1
- Heavy Mortars 6

Specific tactics are beyond the scope of this article. They depend upon a precise organization, a precise situation, and other conditions which demand precise definition. *Infantry* will try in the near future to develop a do-it-yourself problem which will delve into particulars of employment.

This, then, is the mobile task force. How it fights, how well it succeeds, depends upon many factors. However, as a tool for the commander, it has been carefully designed, "tailored" if you will, to pack a big wallop for a short time and to accomplish an important mission that might not otherwise be done.

This article is in consonance with current doctrine as taught at the United States Army Infantry School.

LISTEN and you shall HEAR

DOCTRINE

Capt Donald J. Green, Inf

Yes, listen to the tactical radio nets within the battle group, and you shall hear many security violations—and so does our enemy. Each of these violations provides him with valuable bits of information and assists him in his intelligence gathering activities. While it is generally true that no single violation will divulge our complete concept of operation, each individual error is comparable to a piece from a jigsaw puzzle—when the pieces are all fitted together, they form the big picture.

Transmission security is our primary means of reducing the quantity of information made available to the enemy through our nets. Regardless of our efforts, we can never achieve 100% security. This is because many of the undesirable traits of radio communications cannot be completely eliminated; they are inherent in the system. For example, if we are transmitting, and the signal is strong enough to reach the enemy, we cannot keep him from copying. In fact, we do not even have a means of determining whether the enemy is receiving the signal. We can encode our messages, but the enemy can still copy them for later analysis. *Every* transmission, regardless of whether it is clear text or encrypted, carries information to an enemy intercept station. This is true even if the transmission is free of security violations or procedural errors.

Although information exists in each transmission, there are two capabilities which the enemy must possess before this data will be of any intelligence value to him. First, he must have the capability of placing his receivers within range of our transmitters. Second, he must be able to analyze the traffic and react quickly enough to influence our courses of action once he intercepts the messages. Let us examine each of these capabilities or requirements.

The enemy's being within range of our transmitters can never be ruled out. On today's fluid battlefield, it is impossible to fix the enemy's location with any degree of certainty. Our leaders must always act on the assumption that the enemy can and will listen to a radio transmission. Occasionally, the tactical situation will be so grave that a leader must violate the time-honored rule of "Listening silence until contact." In such instances, however, he must assume that the enemy is within range of whatever is transmitted.

This brings us to the second capability which the enemy must posses: the time to react to what is overheard. All too often we hear the excuse "So what if I did send information in the clear? It was too late for an enemy to act upon it anyway." This is a typical approach used when no other excuse can be found for committing a security violation. You may get by with it today, but what about tomorrow? Your attack may be only a prelude to a major offensive by larger forces. Our foe may not have been able to stop the thrust of your particular unit, but while you are executing this one, he is preparing to counter the overall operation scheduled for the future.

Perhaps you are thinking, "The amount of equipment required to perform these interception and traffic analysis operations would be so enormous that it will never get close enough to be a major threat to me." This is an incorrect assumption. As an example, one or two tape recorders and a variety of highly sensitive receivers or transmitters can be mounted in the rear of a ¼-ton truck. At each higher echelon, the capability of the equipment increases. The point to remember here is that the computers, tape recorders, and other items of electronic equipment required to perform the job, can be mounted in tactical vehicles and trailers for use in forward areas.

Another characteristic of our radios which provides information to enemy intercept stations is the use of different frequency ranges by Armor, Artillery, and Infantry units. If an enemy station receives a signal within the 38-54.9 megacycle range for example, his conclusion will automatically be that the transmitter is organic to an element of an Infantry unit. A few more minutes of monitoring would easily confirm or deny this suspicion. Once a lucrative net has been located, the monitor can gather a wealth of information simply by listening.

In addition, he can determine by signal strength and uniformity whether the transmitters are moving or are stationary, whether they are vehicular or portable. With a bare minimum of training, the monitor can immediately begin assembling such information as Order of Battle and peculiarities of a particular operator or net. To make certain that nothing of importance is missed at the time of interception, he will normally use tape recorders on any net worthy of being monitored. Trained traffic analysts examine these transmissions and achieve remarkable results in an amazingly short length of time.

If monitoring efforts are not quite as fruitful as desired, the enemy may employ the art of imitative deception. Our operators are constantly tuning their sets and sending long and short counts. The enemy takes advantage of this situation and practices for hours imitating specific voices that are associated with specific call words. Then, at just the right time, he enters the net, assuming the identity of one of our stations. The "right time" is quite frequently during a period of poor reception, or when the weather is particularly miserable. He may be lucky enough to coincidentally select an operator who has been trying frantically to get through with an urgent message. Because of the extreme anxiety, he may talk to anyone, about almost anything, completely forgetting his authentication table. The enemy is only too happy to accept the message and then "chatter" with him.

Another technique used by the enemy is that of jamming our frequencies. Many of us have received training in anti-jamming measures; but what we fail to realize is that once an enemy begins jamming our frequencies, it may mean he has already collected the information he needs. An example of this might be when our nets are jammed just prior to the beginning of an attack. This is not only an indication that he is trying to deny the use of these frequencies, but it probably means that he has also analyzed our previous transmissions and is anticipating a particular activity and at a particular time.

In spite of the many undesirable characteristics of radio, there are certain countermeasures to offset the built-in disadvantages. Foremost among these is greater emphasis on training in radio-telephone procedure. This training must be given to all officers and non-commissioned officers, as well as to those few radio-telephone operators shown on our TOE. A large portion of the battle group radios are operated by individuals with many other duties that require their primary attention. (See "Captain Can't Communicate," *Infantry*, May-June 1961.) This means that unless command emphasis is placed upon the subject, these people receive very little training in radio-telephone procedure.

These same operators also transmit most of the clear-text radio traffic. Moreover, they are seldom able to prepare the message in writing prior to transmitting. As a result, many unnecessary words accompany the essential information. It is also true that many of these people have the prerogative of sending, in the clear, information which normally would be encrypt-

ed. This is supposed to be determined in each case by the urgency of the situation, but more often than not this prerogative is badly abused.

The most appalling part of the whole situation is that an estimated 75% of the errors could be corrected without any formal training if operators would only think before transmitting. For example, one of the most common errors is talking too fast for the receiving operator to understand or copy. This results in having the message repeated, tying up the entire net. It also gives the enemy an added opportunity to analyze live traffic, or to employ direction-finding equipment.

A good brevity code is a simple but effective means of reducing transmission time. This "code" is often misleading, however, for we associate it with security. *Brevity codes have no security value and are considered clear text.* As its name implies, the sole purpose is to expedite preparation and transmission of messages.

Another problem area is that of locally improvised codes. Remember that a code easily constructed is equally as easy to break. There are classified publications outlining specific procedures and regulations concerning the preparation and use of codes. These guides must be used if we are to achieve any degree of security.

Earlier I mentioned imitative deception. The proper use of authentication tables is the only defense against this type of enemy activity. All personnel must receive adequate training in the use of these tables if they are to serve their intended purpose.

We frequently operate at strengths far below that which we would like to have. Because of this, we often inadvertently assume the enemy to be in the same position when we consider his capabilities and limitations. This we must not do. We must assume the worst. It is only a question of "Will he?" not "Can he?" Will he employ sufficient people in the communications security and intelligence field to cover our nets adequately? We know he is technically capable of accomplishing all of these and more. We must also accept the fact that he has sufficient personnel if he wishes to use them.

Will he? We must assume that he will. Let us not make it easier for him.

YOUR Personal Affairs

Capt Robert D. Wilson, Inf

EVERYBODY AGREES that no one should neglect to arrange his personal affairs and to plan protection for the future of his family. However, the collecting and recording of personal affairs information is easy to delay, because no one really believes there is a pressing need for it in *his* case.

If you are among those who tend to put off doing anything about personal affairs, or among the many whose personal affairs record is a drawer full of unsorted papers, perhaps what follows may help you get busy. It is a program to help arrange your personal affairs in a systematic and orderly manner. If you start straightening out and filing those unsorted papers now, before you know it you will get the job done. Remember, a few hours of time and effort on your part can mean the difference between a life of insecurity and one of planned well-being for your family in the future.

But let's look at the record. How much of that record is in your head? A Personal Affairs Record is supposed to outline to your survivors the arrangements you have made for them. It is of little use unless you write the information down and give it to your family. Recommended subject titles and information are outlined in the program below.

PERSONAL AFFAIRS RECORD

1. **Name:** permanent or legal address, organization, and service number.

2. **Personal data:**

a. Birth: town, county, state, day, month, and year.

b. Naturalization (if applicable): day, month, year, and designation and location of court granting naturalization.

c. Parents

d. Marriage: to whom, place, and date.

e. Children: full name, place and date of birth.

f. Personal lawyer or trusted friend who may be consulted regarding your personal and business affairs: name and address.

3. **Family records location:**

a. Birth certificates or other proof of date and place of birth of yourself and each member of immediate family.

b. Naturalization papers of your spouse and children, if not born in the United States.

c. Marriage certificate.

d. Divorce papers or death certificates.

e. Adoption papers (if applicable).

4. *Personal* permanent **military service record** (personal 201): This record is important for maintaining a permanent file of all records pertaining to your military service. Collected in this record should be copies of orders, papers showing dates you received medical attention, discharges, and additional information about your military history. The Veterans Administration often requires information from these records. A complete file may help you or your family expedite a claim or receive a benefit.

5. **Other important records:**

a. Will: a will is a legal declaration as to the manner in which you want your estate disposed of after your death. Normally, a will names the executor or executrix who will see to it that your possessions are distributed as you wish. If you have minor children, nominate a guardian to care for them and their property

upon the death of both parents. Money can be left to individuals, institutions, or to charities, either outright, or in trust. A will serves as a deed when real estate is given outright. The will should not mention life insurance. It is best to have three persons younger than the testor as witnesses on the original will (no copies). Be sure the executor knows where the will can be found.

In cases where no will has been left, costs mount and complications arise. The laws of descent and distribution may require a different disposition of property than you desired. Persons legally entitled to a part of the estate will share the estate with those you may have wanted to protect. Review the contents of the will periodically. Marriage, divorce, birth, death, or disability occurring after the making of a will may affect its provisions.

b. Power of attorney: statement of whether you have or have not executed, the date, agent or attorney in fact, and address.

c. Income tax: location of copies of property, local, state, and federal income tax returns, and related papers.

6. **Insurance:**

a. Type: government or commercial, policy number, amount, payment option, and where policies are located.

b. Others: property, accident, medical, and liability insurance protection.

7. **Social Security:**

a. Number, date, and location of issuance, location of stub or card, and years in which payments were made.

b. Up-to-date employment record.

8. **Property ownership** or interest therein:

a. Real estate: consisting of, located at, encumbered by mortgage, trust, deed, held by whom, and taxes on property are paid through year.

b. Automobile: make, year, model, where ownership papers are located, state in which licensed, name of insurance company, policy number, and due date of next premium payments.

c. Personal property: list locations of pertinent papers pertaining to property such as livestock, goods in storage, jewelry, cameras, boat, machinery, and other large or expensive items.

9. **Bank accounts:** type account (savings or checking, individual or joint) and where located.

10. **Safe deposit box:** name of bank, where, and location of safe deposit box key.

11. **Government bonds:** denomination, serial number, location, and persons designated as co-owner and beneficiary.

12. **Stocks,** corporate bonds, securities, and their locations.

13. **Record of Emergency Data:** It is your responsibility to keep this form accurate and up-to-date. Your service organization maintains the record. The form lists the address of your next of kin. If you are missing in action, the form designates who you want to receive your pay. If you die on active duty, the form names who is to receive your unpaid pay and allowances, Service Deposits due, and the six-months' gratuity payment. Under "Voluntary Entries," there is space provided for listing the names of your life insurance companies. Official proof of death is automatically sent by The Adjutant General to these insurance companies.

14. List any **additional information** regarding insurance, allotment, military records, instructions to dependents, Veterans Administration claim number, and any former service or serial numbers.

15. **Service benefits:** Your family could be entitled to one or more of the following benefits when you die, whether you are on active duty, retired, or a veteran. Explain and outline these benefits where necessary.

a. Dependency and indemnity compensation.

b. A gratuity of six months' pay (minimum $800-$3000).

c. Unpaid salary.

d. Social Security.

e. Government insurance or indemnity (when designated as beneficiary).

f. Commercial insurance (when designated as beneficiary).

g. Burial expense payments.

h. Veterans' Pension Act of 1959.

i. Medical Care.

j. Final transportation of household goods.

k. War orphan education assistance.

l. Business, farm, or home loans for widows.

m. Uniformed Services Contingency Option Act.

n. FHA home loan insurance and GI home loan.

o. Civil Service preference.

p. Civil Relief Act of 1940.

q. Military Personnel Claims Act of 1945.

r. Soldier deposits (enlisted members only).

s. Emergency financial assistance.

t. Other aids and services.

16. **Date and sign** the Personal Affairs Record. The passage of time and changing conditions make it necessary to review the record periodically.

Your safeguarding of these important records cannot be overemphasized. Tell your family where these records are located. A safe deposit box in a bank is the best place to keep papers. You may desire to establish your own filing system and keep all the records at home in a filing cabinet. No matter where the records are kept, they should be orderly and accessible to those persons needing them in the event you are not present.

Your keeping the family informed of what you are doing for their future protection will save a lot of embarrassment, misunderstanding, and even ill will later on. Members of the family may have suggestions and comments which will refine or improve some of your ideas; consult them.

A legal assistance officer is assigned by the Armed Services to most installations and stations. He is a licensed attorney, and his job is to act as your legal adviser and consultant in putting your Personal Affairs Record in order. Advice in such matters as a will, power of attorney, divorce and separation, estates, tax problems, and other legal matters is yours for the asking.

The legal assistance officer can refer you to civilian legal advisers, through cooperating bar associations, for any of your problems requiring the services of a civilian lawyer. If a legal assistance officer of your service cannot be contacted by you or your family, call the nearest Armed Forces organization or station, regardless of branch of service, and ask for their legal assistance officer.

Does the arrangement of your Personal Affairs Record seem like a big undertaking? Probably so, and it is true that preparation of this record of information is time-consuming and requires a lot of thought. But the items I have outlined are necessary ones which must be completed today if we are to put our Personal Affairs Records in order. Once this is done, our families will know what to do and what to expect when the time comes. The important thing is not to put off starting *your* personal affairs record. Do it today.[1]

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[1]Some sobering thoughts on this and related topics are found in the editorial, *Infantry*, July-August 1961.

Let's Standardize Trainfire

Capt Harry C. Fisher Sr, Inf

INFANTRY FORUM

For nearly four years, the Trainfire I marksmanship program has been the standard Army method of teaching the individual soldier how to shoot his weapon effectively. There is little doubt that this method is superior to the former method, known-distance (KD) firing. In fact, Trainfire I has received acclaim from students, instructors and commanders as an excellent program.

During this four-year period, we have had the opportunity to examine each phase of training. Although certain minor modifications of the program are now being studied, it appears that the only major problem with Trainfire I is its evaluation system or record-range phase.

With our previous KD record firing, we could easily standardize requirements for qualification, for all firing was conducted on like ranges, and all targets were equally visible. Regardless of where a soldier fired for record, the conditions were virtually identical. The qualification awarded to the firer was standardized. In addition, Department of the Army had a realistic record of the effectiveness of marksmanship training.

Unfortunately, under the Trainfire I program there are several factors which have precluded a standardization of the record firing course. Further, Department of the Army is not getting as accurate a picture of rifle marksmanship training as is desirable.

The primary factor preventing standardization is the variance in difficulty of different Trainfire ranges. In short, some record ranges are easier than others, and, although we have ranges of varying difficulty, we have only one standard of qualification, that presented in FM 23-71. It takes 36 hits to qualify as a marksman, 54 hits to qualify as a sharpshooter, and 68 hits to qualify as an expert. Thus, a soldier may shoot expert at a Post with a relatively easy range, but only marksman at a Post with a difficult range. It should be obvious, therefore, that the disparity of scores throughout the Army is caused by the wide variance and lack of standardization in range facilities.

This brings us to the question of what makes one range easier than another. Generally, an easy range is one which permits the firer to locate his targets rapidly, and thus to take more time to get a sight picture, compensate for range, and fire his weapon. Ideally, all of this should be accomplished within a uniformly specified time limit. Naturally, the more time available, the easier the shot and the higher the score on record-firing day. Conversely, if the firer must take several seconds to locate his target, he has less time to fire, gets fewer hits, and attains a lower score. If the time required for target detection is the variable which affects degree of difficulty of Trainfire ranges, we might well consider the factors which enable a firer to find his target more readily.

There are four elements with which we are concerned. First, and probably most important, is natural range camouflage. Natural camouflage is foliage, such as grass, vines, bushes, and trees, the presence of which materially reduces the firer's ability to locate his target rapidly. The absence of natural camouflage allows the target silhouette to stand out like a bullseye on the KD range. One essential element of the Trainfire program is to teach the student how to detect his target in natural camouflage. Camouflage is not designed to hide the target, but rather to require the firer to detect his target as he might be required to do in combat. Today, however, some ranges are too well-camouflaged, while on others the camouflage is scanty.

The second element affecting target-detection time is seasonal

change, a factor closely related to camouflage. There is a considerable difference between summer and winter conditions. Most ranges present more of a problem during the spring-summer period than during the fall-winter months. This, of course, is caused by the presence or lack of vegetation. Additionally, some regions have heavy snow, some have light snow, and still others have none. This second factor then, not only involves differences between geographical regions, but also seasonal variances within the same region. In the KD system, this problem existed only to a minor degree. Extreme temperatures, rain, and snow may have caused some discomfort, but they had little to do with ability to find the target.

The third element affecting the degree of difficulty is the terrain on which the record range is constructed. Ideally, terrain used for a record Trainfire range should slope gradually downhill for the first 200 meters, then rise gradually for the next 200 meters. This is said to represent ideal defensive posture in combat. These conditions can rarely be met exactly, however. In fact, there are even extreme cases in which ranges have been constructed on flat, tabletop surfaces which in most cases present a great challenge at distant ranges, but provide a negligible challenge close in.

The fourth and final physical element is the use of silhouette targets. One of the principles of the Trainfire I program is to present a realistic-type target. Because it would be most unusual for an enemy soldier in combat to be dressed in any uniform which contrasts or stands out clearly on the battlefield, considerable effort must be made to use a target silhouette which blends with the natural surroundings. In use today on our record ranges are silhouettes which vary in hue from a light tan to (on one Post) a crimson orange, the latter color having been selected to insure the target could be seen by the firer at greater ranges. This "would insure confidence in the weapon" while firing at ranges in excess of 250 meters. Using such a target conflicts with the theory of Trainfire I—surely an enemy soldier would not present such a distinct target on the battlefield. Who is to say that this training center, using brilliantly-colored targets and obtaining the higher overall scores, is conducting training superior to a training center which installs target silhouettes that closely blend with the natural surroundings on the record range? The point is that care must be taken at the local range to insure selection of silhouettes that match the vegetation and surroundings.

Closely related to the four physical elements which create a disparity in range difficulty is the human element—those individuals who operate the range, the target operators and lane scorers.

The primary duty of a target operator is to raise and lower the targets in proper sequence and in the allotted time. The operator is supposed to raise the target so that the firer has a specified target-exposure time. For ranges of 200 meters and less, the exposure time is five seconds; for ranges greater than 200 meters, the exposure time is 10 seconds. "Exposure time" means the time in which the target is fully raised and exposed to the firer. On most ranges, the electrical response from the time the switch is moved to the time that all targets are up varies from a half-second to one second. For the sake of uniformity, timing should commence when the targets are exposed, not when the switch is activated. The timing is most important when firing at close-in, five-second targets.

The second individual who can appreciably assist in the effectiveness of a standardized program is the lane scorer. This individual, more than anyone else, can intentionally or unintentionally distort the validity of the Trainfire program and its proper evaluation as training. Recall the requirement imposed on KD record-range firing. Because scores were being distorted by individual firers, pit scoring was developed to eliminate the "M1 pencil." Scorers must be carefully selected, well-trained, and properly oriented. Although there appears to be little or no intention to falsify Trainfire scores, there could be cases in which unauthorized alibis are requested by the firer and approved by the lane scorer because of the scorer's lack of instruction on such points. An excellent guide for the training of range personnel is found in Annex III, Period 17, FM 23-71.

These problems are not mentioned to criticize the Trainfire program, but, instead, to create an awareness of them so that local range personnel can develop ranges to meet the standards set forth by the Trainfire I program. Realizing however, that a disparity exists among the ranges, and that some of the problems cannot be solved locally, I offer the following as a possible solution to the problem.

First, a base range or "standard" Trainfire I range could be established to serve as a base or norm for the official scores as established in FM 23-71. Every effort should be made to create the most ideal possible situation.

Next, a Trainfire I Record Range Qualification and Standardization Board could be appointed. This Board would be composed of selected qualified individuals familiar with the Trainfire I program, and would have as its mission the inspection of all Trainfire I record ranges, Army-wide. The base range would be the standard for comparison. Upon comparison of the base range with its own, each Post would establish a local score for its own range. In this way, a more valid system would be developed for the classification of marksman, sharpshooter, and expert for each individual range.

By the adoption of such a plan, the Trainfire I record range would become more effective and would assist in establishing a standard of qualification throughout the United States Army. Further, this would permit the Department of the Army to have a more reliable and realistic picture of the Army rifle marksmanship program. And last, the individual soldier would have the opportunity of better evaluating his ability with the rifle, thus developing a well-trained rifleman with confidence in himself and his weapon.

ALERT FORCE

Capt Rex V. N. Perkins, Inf

Alert!

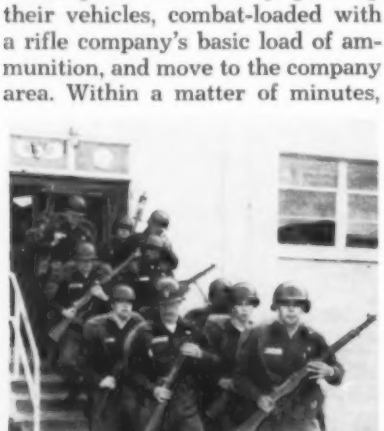
The alert bell sounds!

Master Sergeant Johnson leaps from his desk where he was reviewing tomorrow's training highlights, runs into his platoon bay, and barks crisp orders to his platoon.

"All right, men; let's go! Fall out! We're on our way!"

PFC Edwards, an AR man in Johnson's platoon, quickly secures his gear (combat pack, rations, weapon, and barracks bag), and moves directly to the company street. Here, he falls in, in an assigned plane-load formation, with the other members of the company.

Simultaneously, all the unit drivers doubletime to a guarded ammunition point where they pick up their vehicles, combat-loaded with a rifle company's basic load of ammunition, and move to the company area. Within a matter of minutes,



Make way!

Sgt Johnson, PFC Edwards, and all the men of the airborne rifle company are organized and equipped for combat, prepared to move to any troubled spot in the world and fight.

As the company commander surveys his company, he turns to his First Sergeant and says:

"Only pretty good, Top. That required 30 minutes. Reschedule for tomorrow. Make it 20 minutes then!"

These activities seem strange to many people, but they are common occurrences to troopers of the 101st Airborne Division.

In the 101st, and typical of other STRAC units, battle groups in turn are scheduled as the division alert force for a two-week period. Their mission is to be prepared to move by aircraft within four hours after notification of an alert. To facilitate a coordinated move from their cantonment area, the battle group commander designates one rifle company as the first Immediate Ready Force, and another as the second Immediate Ready Force. The first IRF company is required to move from its billets within one hour after notification, and the second IRF company must go within two hours. In order for the first IRF company to accomplish this mission, a detailed and well-rehearsed plan is necessary. Let us examine the activities of the key personnel in one of these companies, and see what preparations must be made.

The company commander insures that all weapons are functioning properly by conducting an alert firing one day before assuming alert responsibility. This includes the actual firing of every weapon in the company. If during this test a weapon should malfunction, trained Ordnance personnel are on the spot to assist in repairing it. While on the range, every individual confirms the battle zero of his weapon. If any unit weapons are in for maintenance, an emergency requisition is prepared and replacement weapons are issued.

The battle group S4 issues one complete basic load of ammunition for the company. This ammunition is loaded on company vehicles, securely lashed, and placed in an ammunition holding area which the unit guards.

Company mess personnel inspect all mess equipment for serviceability and completeness, and load it on a 2½-ton truck, securely lashed and stowed for movement by air. The 1½-ton trailer is loaded with a three-day supply of rations to be used when the unit reaches its destination. The vehicle and trailer remain loaded and untouched for the duration of the alert. The mess sergeant issues one "C" ration to each member of the unit for consumption on board the aircraft while en route to their destination. During the alert, the mess uses the post, camp, and station equipment which, upon the unit's departure, will be inventoried and placed in storage by personnel from Post G4.

The company operations sergeant prepares manifests for movement by C-130 or C-124 aircraft. Immediately prior to assuming alert responsibilities, the company holds a formation at which every man is instructed as to which aircraft he

will move in if the alert turns "hot". No time is wasted in placing personnel in their proper aircraft loads. Prior to preparing manifests, the motor sergeant weighs his combat-loaded vehicles, and coordinates with the operations sergeant to insure vehicles are manifested.

The rifle company is not the only unit within the battle group which is involved in these preparations. The battle group personnel section reports to the alert unit several days prior to its assuming alert responsibilities, and helps to prepare wills, powers of attorney, and other personal matters.

Among the final preparations is the moving of private automobiles to a holding area where they are locked and guarded by the Post for the duration of the alert. In the event the unit should move out, keys to these autos are sealed in envelopes with instructions as to disposition of the vehicles, and secured by battle group rear echelon personnel.

Each individual packs a combat pack with a horseshoe roll, including in it a mess kit and utensils, change of underwear, poncho, toilet articles, and rations. In addition, every man has a barracks bag containing three sets of fatigues, an extra pair of boots, underwear and seasonal clothing. Both the combat pack and barracks bag accompany the trooper when he moves. Into the soldier's footlocker are placed items of equipment which he will not need in the combat zone, but which will follow the unit and be made available to him if a permanent change of station occurs. All other personal items are placed in a container, locked, and addressed to the soldier's next of kin. This container will be shipped to the addressee by Post personnel upon departure of the unit.

The barracks are not neglected in preparing for the alert. All non-TOE items are segregated by type, tagged, and made ready for turn-in to Post inventory personnel when the unit moves out. This includes items such as cleaning equipment, bunks, bedding, office supplies, dayroom furniture, and mess hall tables and chairs. If the unit does not return, this equipment will be available to the next unit which occupies the barracks.

Mount up!

Upon assumption of alert, an alert ceremony is held at which a formal changeover of alert responsibilities is made from one unit to another. Troops parade in battle dress, and officially become the First Immediate Ready Force when presented the STRAC streamer. When the ceremony is over, troops return to their billets, receive final briefing on their alert responsibilities, place guards on their vehicles and ammunition, and are restricted to their barracks. This posture is maintained for one week, or until they are ordered to accomplish an alert training mission. During this week of restriction, soldiers engage in training close to the billets. During non-duty hours, they participate in organized athletics, and may attend movies which are made available to them each evening within the company area.

Although these activities are but a few of the final preparations made by members of a first or second IRF, they are a good indication of the various details which the company commander faces prior to assuming an alert mission.

Move out!

MECHANIZED INFANTRY

Col G. Harry Huppert, Inf

INFANTRY FORUM

AMONG many experienced and dedicated Infantrymen a great controversy is now raging. What is the function of the Armored Personnel Carrier in modern battle?

The role of the Infantry is to close with the enemy and destroy or capture him by fire, maneuver and close combat. The means to accomplish this mission in the environment contemplated by the everchanging art of war is now causing much frustration among those officers and agencies who are attempting to foresee and depict future Infantry combat. The principles of war are still sound; however, because the tools of war are radically changing, we must reevaluate these principles to ensure that we are not engulfed by our past success. Tacticians have always stressed that, to be successful, Infantry must improve its firepower, mobility, communications, surveillance, acquisition, and logistical capabilities.

Throughout history the Infantry has failed to keep pace with Cavalry, Armor, Artillery, and Aviation in improving its mobility and maneuverability capabilities. The Russians, Germans, British, and Canadians have recognized that the combat arms must have compatible mobility if future battles are not to result in ponderous, fixed-position operations. Military strategists of these countries are improving the mobility, firepower, communications, and logistics of their Infantry by providing it with full-tracked vehicles so the combat soldier reaches the point of decision properly supported and prepared to fight.

Many tacticians see mechanized warfare as inevitable. However, they also consider that Infantry is Infantry no matter what it rides in. When Infantry rides in "air vehicles" it is not designated "Aviation Troops;" when it rides in "trucks" it is not "Transportation Troops." Why should it be considered "Armored Troops" when it rides in APC's? To accomplish its mission Infantry must dismount from whatever its transportation may be.

Evaluation of USSR small-unit tactical doctrine, and analysis of the anticipated battle environment, indicate that Infantry combat units must ride in, and occasionally fight from, a lightly-armored vehicle. Our capabilities must be increased by providing an organic carrier which will give Infantry a true capability of fighting "on carrier" when such is necessary to accomplish the mission.

Our current APC, the M113, is a third-generation vehicle. The Infantry should not be satisfied with this vehicle; modification and improvement must be made. This carrier gives good cross-country performance and speed, much above foot deployment over the most difficult terrain. It has a fairly low silhouette; it can swim through streams and lakes; and can be air-transported to give the Infantry strategic as well as tactical mobility.

This APC is of lightweight aluminum design. Its armor protection is not too great, because the Infantry does not desire to increase vehicle size and weight. However, it gives the crew considerable protection from fragmentation, small-arms fire, high-burst artillery fire, some effects of heat and blast, and nuclear radiation. Ideas concerning the desired amount of protection vary widely. Some want no armor, arguing that if you can't have total protection, why have any? Others favor more armor, as protection against larger weapons. What is often overlooked is that any level of protection requires some compromise in *other* vehicle characteristics: weight, performance, or durability. The M113 is a reasonable compromise among these competing characteristics and appears to meet *current* Infantry requirements.

The APC cannot be compared to the family of unprotected vehicles. Wheeled and flat-bed-type vehicles are merely noncombat transportation. They cannot swim, their cross-country mobility is extremely poor, and they give no protection to the Infantry against even normal weather hazards. The APC affords the Infantry of today and tomorrow considerable advantages:

- It facilitates forward and flanking movement during an attack under the close cover of supporting fire.
- It can quickly overcome or bypass antipersonnel obstacles.
- It protects against enemy small

arms fire, fragmentation, and the effects of radiologically and chemically contaminated areas.

- It increases the assault firepower of an Infantry unit, even when dismounted (organic vehicular weapon will have a dismount capability).
- It facilitates control, positioning, and responsiveness of the combat unit.
- It may assist movement through or around tree blow-down, rubble, deep snow, inland waters, and many other deterrents to foot and wheel mobility.
- It conserves the energy of Infantrymen so that they can fight more effectively when dismounted.
- It provides mobile warming and drying facilities to rejuvenate the individual soldier in cold, wet weather.
- It carries a replenishment of ammunition and essential supplies.
- It provides a means of continuing the momentum of the attack.

It is not contended that Infantry will never fight on foot. Close combat assault tactics will be required to destroy enemy units and to seize and clear objectives. These actions will be violent but of relatively short duration. However, if the objective can be seized and cleared in less time, and with fewer casualties by Infantry riding in (and occasionally firing from) lightly-armored vehicles, then the mechanized concept has merit. Infantry mounted in organic lightly-armored carriers should not differ from other Infantry except in the swiftness of its movement and its lessened vulnerability to battle hazards. Dismounted patrolling, reconnaissance, security, mopping up and assault actions will still be required. The main difference will be that the true power of an Infantry unit will stem from its improved firepower and maneuver qualities rather than from its manpower mass. In application, mass consists of the required firepower and manpower being brought together by mobility at the point of decision.

The speed, mobility, and armored protection of carriers must be exploited. In the attack, carrier-borne Infantry advances rapidly under the close protection of supporting fires. In certain situations, carriers may move by bounds, leap-frogging between defilade positions. They maneuver as close to the assault position as practicable, whereupon the troops dismount and continue their attack to the objective. The Infantryman-driver, a member of the squad, remains with the carrier, prepared to provide supporting fires, to assist in requesting additional fire support, or to provide local security. Further, he is ready to pick up the squad and continue the attack. Where a situation forces the Infantry to dismount some distance from the objective, carriers, moving by bounds between successive defilade positions, follow as close behind the advancing Infantry as practicable, habitually supporting the attack with the vehicular-mounted weapons. In certain circumstances, it may be possible, without dismounting, to overrun and destroy enemy resistance by utilizing the on-vehicle fighting capability of the carrier. We do not wish to fight habitually from our APC. However, we must not deny ourselves this capability to fight from a carrier in self-defense, in emergencies (*eg*, ambushes), and during rapid exploitations. We must be able to fight the opposing Infantry wherever it is.

Another reason that we consider the APC not merely troop transportation is the dismountable multipurpose organic vehicular weapon which will improve Infantry combat capabilities. It is a fact that the Russian mechanized infantry regiment is equipped with 108 organic APC's, supported by 32 organic tanks plus a usual combat attachment of an additional 32 tanks. With this great number of enemy APC's that will face us, our APC organic weapons system must be able to take enemy APC's under fire to immobilize them, restrict their mobility, and force their troops to dismount. Our APC's will not normally engage in vehicle-to-vehicle fire fights, but because our potential enemy will have a preponderance of mechanization, we must not deny ourselves any firepower capability which will help offset enemy mechanized superiority.

Russian doctrine states that their infantry will stay mounted until forced to dismount. Our weapons must force this dismounting at the greatest possible range. Thus, we reduce enemy mobility and are able to bring direct Infantry controlled fire upon the slow moving enemy foot troops. Our organic APC weapons will ensure that we have this increased capability.

In addition to REDEYE, the Infantry must be provided with a weapon that will ensure close-in local air defense. This organic weapons system on our APC will provide us the capability of keeping the enemy tactical air off the heads of our Infantry soldier. This umbrella-type firepower will force the enemy low-flying aircraft to seek higher altitudes where our excellent MAULER and HAWK antiaircraft defense weapons can effectively bring them under fire.

Some contend that logistical problems of maintenance and resupply of fuel may be beyond the capability of our Technical Services to support. One must just look into history, especially that of the German Panzer units or the transition of the American Army from horses to vehicles, to ascertain that maintenance and logistical problems have been overcome in the past. They will be overcome in the future. Granted there are problems, but war in itself is a major problem. If we expect to defeat the enemy, we must provide ourselves with not only the tools but the service of these tools to ensure success.

The APC is not just a "bus" to carry Infantry from one place to another. It is a dynamic, organic combat vehicle which will assist the Infantry to accomplish its mission in the shortest possible time and with the fewest casualties.

(NOTE: The theories presented in this article are those of the author. They do not represent the OFFICIAL doctrine or contemplated positions of the United States Army Infantry School, United States Continental Army Command, or the Department of the Army.)

AN INSPECTION CHECKLIST

Capt John A. Milani, Inf

MANY YOUNG officers are a little unsure of themselves when called upon to conduct their first full inspection of their men. Sure, they've undergone inspections during their training, but they lack the full confidence which comes from having experience in conducting inspections. They feel there is always the danger that they will overlook something which would have been obvious to older hands. They become particularly conscious of this when conducting inspections preparatory to an important IG or command inspection, in which inspectors rarely overlook anything. Although Army manuals contain the proper procedures for conducting an inspection, they do not go into details as to what to look for. That is usually a matter of the local unit SOP, which will also prescribe the manner of display and other matters. There are, however, certain universal items which are checked in almost every full inspection.

In order to pass on the benefits of experience of others, I have listed below a partial checklist of inspection items which have been found to be of universal interest throughout the Army. When used with a reasonable attitude on the part of the inspector, the list may be of help in achieving the larger, overall goals of all inspections—a better-manned and better-equipped Army.

1. **Individual**
   - a. Haircut
   - b. Shave
   - c. Regulation tie knot
   - d. Proper placement of brass
   - e. Name tag
   - f. Belt tip no more than 1" from buckle
   - g. Trousers proper length
   - h. Shoes shined
   - i. Shoe soles or heels not worn down
   - j. Dog tags and proper chain
   - k. ID Card (not cracked or out of date)
   - l. Personal immunization record
   - m. Spectacles, two pair (if applicable)
2. **Room or Area**
   - a. Door and knob function properly (if applicable)
   - b. Floor polished
   - c. Wooden blocks under bunk and wall locker legs
   - d. Elimination of excess wax in corners
   - e. Dust removed
   - f. Windows operate properly and have clean glass
   - g. Walls clean
   - h. Light of proper wattage; light switch functioning properly
   - i. Radiators clean and free of dust
   - j. Chairs or furniture in serviceable condition
   - k. Fire extinguisher
     - (1) Proper type
     - (2) Full
     - (3) Operational
     - (4) Tagged and inspected
3. **Wall locker**
   - a. Door handle, and lock function properly
   - b. Top of locker free of dust
   - c. Container on shelf for miscellaneous personal items
   - d. Service cap on front edge of shelf
   - e. All clothing accounted for, including raincoat, overcoat, field jacket and liner, army green uniform, OG shirts and field trousers, fatigues, and shirts for wear with green uniform
   - f. Bunk blankets free of dust on each garment as prescribed by local SOP *and Army regulations*
   - g. All buttons present and fastened on all uniforms
   - h. Out of season clothing folded neatly and placed on top of duffle bag in bottom of wall locker
   - i. Ties and scarf displayed
   - j. Wash cloth and towel displayed
   - k. Proper name cards on door
4. **Foot locker**
   - a. Proper name card
   - b. Hinges, hasps, and lock in serviceable condition
   - c. Socks marked and free from holes
   - d. Black shoe polish
   - e. Field sewing kit
   - f. Underwear, both winter and summer, rolled neatly in bottom of locker
   - g. Two field caps and one blocked cap
5. **Footwear**
   - a. Two pairs of boots present
   - b. Boots evenly worn indicating rotation
   - c. Heels and soles in good repair
   - d. All footwear shined all over, not just on toe
   - e. Overshoes correct size and clean
   - f. All buckles fastened
   - g. Civilian shoes displayed neatly and in good repair
6. **Bunk and display**
   - a. Laundry bag in proper place with no unauthorized items inside
   - b. Sleeping bag clean; zipper slides freely
   - c. Shelter half has all buttons, tie-down loops, and no holes
   - d. Tent pins, poles and rope in serviceable condition
   - e. Poncho free of holes and with proper snaps
   - f. Bunk blankets free of dust
   - g. Underwear display clean and marked
   - h. Handkerchief marked
   - i. Snaps on first aid pouch and canteen cover work easily
   - j. First aid packet present and unopened
   - k. All snaps on cartridge belt present and work freely
   - l. Toilet articles all present and clean; no rust on razor
   - m. Combat pack
     - (1) All metal ends on straps present
     - (2) Hooks for "D" rings have spring catch
     - (3) Waterproof wrapping present and not torn
   - n. Mess kit closes tightly and free of dirt or rust
   - o. Knife, fork, and spoon clean and free of rust
   - p. Entrenching tool clean; locknut moves freely
   - q. Leather edges on entrenching tool cover in good repair
   - r. Bayonet clean; release operates smoothly
   - s. Snap fastener on scabbard not missing or broken
   - t. Canteen
     - (1) No splits on seam
     - (2) Cork present and in good condition
     - (3) Chain from cap to canteen
   - u. Canteen cup free of rust and dirt
   - v. Normal rifle inspection, including sling for cleanliness
   - w. Protective mask
     - (1) Elasticity of harness
     - (2) Lenses not broken or cracked
     - (3) No dents in canister
     - (4) Carrier contains anti-dim cloth and CBR self-aid kit
   - x. Helmet liner
     - (1) Webbing clean
     - (2) Sweat band in proper position
     - (3) Neck band and chin strap present
   - y. Steel helmet chin strap has quick release

OUR AUTHORS

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Captain Phillips, an Engineer, has served as a tank platoon leader, an Infantry company commander in combat in Korea, and in various positions in the Engineers. Holder of a Master's Degree from Lehigh University, he is now an Engineer instructor with the Command and Staff Department, USAIS.

A frequent contributor to INFANTRY, **Major Brown** served in the Korean War, and other varied assignments, including aide-de-camp to the US Commander in Berlin. He is a graduate of CGSC, served a year as Editor of INFANTRY, and is now an instructor in the Command and Staff Department, USAIS.

No stranger to conducting inspections is **Captain Milani,** who was commissioned in 1954 at Seton Hall University. He has served as a company commander at Fort Jackson and Fort Lewis, and with the 34th Infantry in Korea. He is a 1961 graduate of the USAIS Career Course.

For more than half of his Army career, **Captain Marshall** has been in TOE rifle companies, including a recent stint as a company commander with the 2d ABG, 187th Infantry, 101st Airborne Division. A Ranger and Airborne course graduate, Captain Marshall completed the Career Course in 1961.

The military career of **Lieutenant General Jenkins** (Ret) began with enlisted service in World War I. He was commissioned into the Regular Army in 1920, and early in World War II he was chief of G1 Officer Personnel, War Department. Later he served as assistant G3 for Allied Forces in North Africa and for the Sixth US Army Group in France. For two postwar years, he headed our Military Advisory Group in Greece. Later, in Korea, he commanded the IX and X Corps.

A 1954 ROTC graduate of Iowa State, **Captain Green** has long experience in communications, completing a three-month Communications Officer Course at USAIS in 1958, and then serving for two years as Communications Officer for the 1st Battle Group, 3d Infantry. He is a 1961 graduate of the Career Course.

An Infantry officer, **Captain Meister** has nevertheless served with Armor most of the time since entering the Army from ROTC in 1953. He has been a platoon leader, executive officer, and company commander in an AIB, and commanded a tank company in an Armored Division for three years. He is a 1961 Career Course graduate.

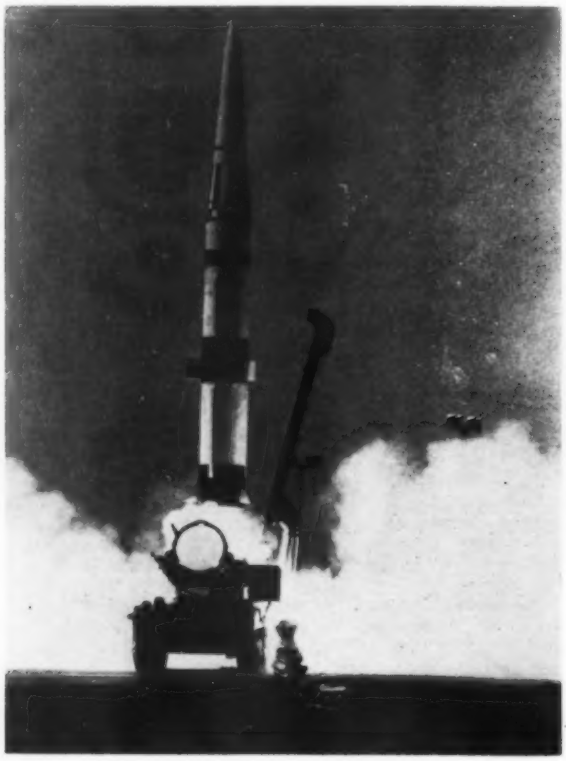
A 1955 graduate of USMA, **Captain Perkins** attended the Basic, Airborne, and Ranger courses at Fort Benning, and later served three years with the 101st Airborne Division. In 1961 he completed the Career Course at USAIS.

Colonel Huppert, a previous contributor to INFANTRY, is a graduate of CGSC, Armed Forces Staff College, and Army War College. He has commanded Infantry, tank destroyer, and AAA units, has served as a division G2 and G3, and has been on the faculty at USAIS and CGSC. He is now Deputy Chief, Combat Developments Office, USAIS.

WHAT'S NEW FOR INFANTRYMEN

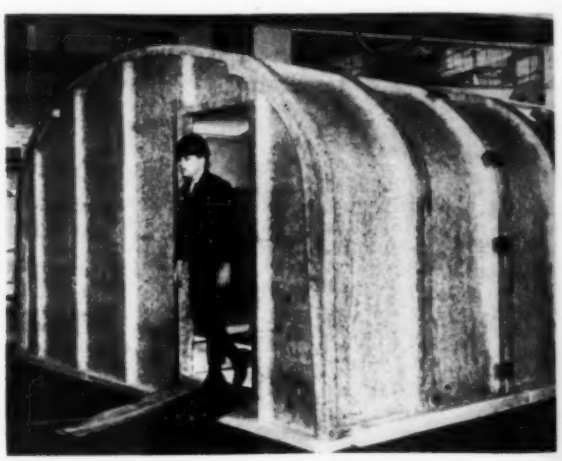
PERSHING MISSILE

Above and below are two new views of the Army's Pershing Missile, which recently passed advanced testing at Cape Canaveral. Previously the missile had been fired from its transporter-erector-launcher. This time the TEL and missile were placed on its fully tracked prime mover, the XM474, for firing.



GAMA GOAT

Pictured above is the "Gama Goat" which recently has been undergoing a mobility evaluation by the Army. The six-wheeled, ¼-ton Goat can climb 60 percent grades, crawl over 24-inch vertical log barriers, travel through swamps and deep mud, and "swim" rivers and lakes. It weighs 3100 pounds and is powered by an 80-HP, air-cooled automotive engine.



PLASTIC BUILDINGS

A recent study by Army Engineers concerns "buildings in barrels," whereby barrels of liquid plastic can be mixed to form a rigid building material of plastic foam like that shown above.

AIR CONDITIONED SUIT

An experimental air-conditioned suit that combats arctic cold or tropic heat has been developed by the US Navy. A temperature of about 80 degrees is automatically maintained inside the suit by a thermoelectric unit fitted in the back. A battery pack in front provides power to make the suit completely portable. Note the fast-melting stick of butter in man's right hand.

CARGO AIRCRAFT

Pictured above is an artist's conception of the C-141 high-speed, jet, troop-carrying cargo aircraft mentioned in the May-June issue of *Infantry*. It is now under development by the US Air Force.

ROLLING LIQUID TRANSPORTERS

Under test by the Transportation Corps are these tire-like, portable gasoline stations for refueling the military vehicles of fast-moving combat units. Each "tire" contains 500 gallons of gasoline, and can be towed over virtually any type of terrain by a tank, truck, APC, or other military vehicles. Towing speeds range from 20 to 45 miles per hour.

LIGHT WEIGHT JET

The Fiat G91, on loan from the Italian government to the Army Aviation Center at Fort Rucker, is one of the many aircraft that the U.S. Army Aviation Board is using to develop data on the problems associated with high speed flight at very low levels. The G91 is currently employed as a lightweight, strike reconnaissance aircraft by many of the NATO nations, and can use small pastures rather than long concrete runways as a base.

MONTHLY LIST OF INSTRUCTIONAL MATERIAL

The Monthly List, reproduced here as a reader service, is an official publication of the Infantry School, and is produced to facilitate coordination of Infantry doctrine among Army service schools and to offer Infantry School instructional materials to Army agencies which conduct, support, or monitor school-type instruction. It is distributed under provisions of USCONARC Directive 310-2, 8 May 1961. Each authorized addressee is furnished one gratuitous copy of any listed item specifically requested for official use.

Items may be purchased from the Book Departments, USAIS, Ft. Benning, Ga., at prices indicated, by any member of the U. S. Armed Forces who so identifies himself when ordering. Requests must include name and address of the military unit to which assigned or attached, and a statement that the material will not be re-sold or otherwise released to individuals not assigned to the military establishment or to agencies not an integral part of the military establishment. Mail orders must be accompanied by full remittance, including postage surcharge. Orders will be mailed to the requester through his unit.

Conduct of Fire, Infantry Mortars, 1684-USAR (ADT). Review of the characteristics, capabilities, and ammunition of the 81mm and 4.2-inch mortars; new mortar developments; forward observation procedures employing the target-grid method of fire control; practical exercise applying forward observation procedures. 20¢

Characteristics and Conduct of Fire, Infantry Mortars, 1685—USAR (ADT). Familiarization with the target-grid method of fire control from the FDC; fire control instruments used with 81mm and 4.2-inch mortars. Demonstration of fires by 81mm mortar section and 4.2-inch mortar platoon. 20¢

Wire Equipment, Infantry and Airborne Division Battle Group, 3235-USAR (ADT). Integrated conference and demonstration covering the wire communication equipment of Infantry and airborne battle groups. 10¢

Signal Operation Instructions, 3309-USAR (ADT). Integrated conference and practical exercise covering the contents and use of Signal Operation Instructions (SOI) and Standing Signal Instructions (SSI). 15¢

Maintenance and Inspection of Communication Equipment, 3354-USAR (ADT). Integrated conference, demonstration, and practical exercise covering command and staff responsibility for maintenance, and procedures for placing command emphasis on the maintenance program. 15¢

Battle Group Portable FM and Vehicular AM Radio Sets, 3554-USAR (ADT). Conference and demonstration of radio sets AN/GRR-5, AN/GRC-19 and AN/GRC-46. Integrated conference and demonstration to familiarize students with calibration and operation of radio set AN/PRC-10 to include methods of extending the range of the set using standard and/or field expedient equipment. Practical exercise in calibration, tuning, and operation of radio set AN/PRC-10 to include aspects of transmission security. 10¢

Battle Group Vehicular FM Radio Sets, 3560-USAR (ADT). Integrated conference and demonstration covering operational facilities, characteristics, components, and operation of radio set AN/GRC-7; familiarization with the components and operational facilities of the Infantry, armor, and artillery vehicular FM sets. Practical exercise in operation of various components of the AN/GRC-7 to include transmission security. 10¢

Introduction to Signal Communication, 3601-USAR (ADT). Integrated conference and demonstration of means of communication; rules of responsibility for installation and maintenance of communication systems; tactical application of each means. 15¢

Communication Systems of the Infantry and Airborne Rifle Company, 3631-USAR (ADT). Conference covering radio and wire communication systems within the rifle company organic to the Infantry and airborne battle group to include the duties of assigned communication personnel. 20¢

Graphic Representation, 6304-A4-USAR (RDT). Integrated conference and practical exercise emphasizing the use of graphic representation, and production of operation orders, situation maps, and related overlays. 70¢

Infantry Reference Data, March 1961. $1.20

Reference Book, Infantry and Airborne Battle Groups, RB 7-40, March 1961, $1.00

TRAINING FILMS

The following new films have been approved for release to requesting units.

R&D #15, Army Research and Development—Film Report No. 15 (U), Color, 29 minutes.

SFS 38-68, Packaging and Packing—Inspection of Packaged and Packed Household Goods, 58 frames, 14 minutes.

MF 20-9377, The Broken Bridge, Color, 44 minutes.

TF 7-3042, Rifle Platoon in the Attack, 33 minutes.

TF 9-2995, Principles of Hydraulic Systems, Color, 19 minutes.

TF 10-3093, Classes of Supply, 10 minutes.

TF 11-2863, The AN/TCC-7 System—Part VI—Lineup of the Complete System, 19 minutes.

TF 35-3065, Lead to Serve—Part I—Traits of Leadership (Women's Army Corps), 23 minutes.

TF 44-3028, Continuous Wave Radar, Frequency Modulator—Magnetron Isolation and Frequency Modulation, 16 minutes.

TF 44-3058, Introduction to Tri-Slot Operation—Part I—Conical Scanning (U), 11 minutes.

TF 44-3059, Introduction to Tri-Slot Operation—Part II—Tri-Slot Operation (U), 20 minutes.

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TRICKS OF THE TRADE

MOBILE CP

Col Theodore C. Mataxis, Inf

THE First Airborne Battle Group, 505th Infantry ("Panthers"), recently solved a problem which had long plagued airborne units: finding a suitable command post. The conventional Infantry CP, with its armored personnel carrier, van, or tent, was simply too bulky for airborne units. At the opposite extreme, a "hippocket" CP, with a folded map carried under the field jacket, was tried on an experimental basis. Extremely inclement weather soon showed the need for some kind of shelter.

The solution finally arrived at was a jeep-type command post in which a canvas cover completely covered the body of the jeep (Figure 1). Zippers were sewn into the sides to allow easy access to the inside of the jeep, even with the cover installed.

For lighting, a jeep headlight was suspended in the center of the vehicle, with a line connecting it to the battery as a power source (Figure 2). This provided sufficient light for both the radio operator in the back, and the staff officer working on his map in the front.

Another innovation was the addition of brackets welded to the side of the jeep to carry extensions for the 292 antenna (Figure 2). A pole, hinged onto the rear bracket, provided support for erection of the antenna.

The "Panthers" found this compact CP helpful not only in airborne operations, but in ground actions as well. In addition, during night field operations, it provided company commanders and battle group staff officers with a dry, lighted, and relatively warm area in which to work, thus assisting greatly in control. In short, it was able to fill the bill as a CP, yet was mobile enough to keep up with the rapidly moving units of an airborne battle group. It may well be the command post of the future.

Figure 1

Figure 2

OUR NEXT ISSUE WILL BE REAL COOL, MAN!

EVER WONDER how to keep warm in a snow cave built for two? Or how the polar bear came to have white fur? Or just what it is that makes people fog so much different than town fog? We're not sure either (yet), but by November, we'll have hitched up our team and sledded (slud?) way up north to find out. As an unusual twist, nearly the whole issue will be devoted to problems, and solutions, concerned with operations in the far north. Our authors will be some of the most famous people we know—Infantrymen. Be sure your subscription hasn't run out. If it has, though, there's a blank someplace in the magazine to re-new with. Better think about our Christmas offer too—your best friend may not be a subscriber. Here's to bigger and better snows!